

Webster Downtown Plan

Phase I Report

**MAGUIRE
GROUP**

Wallace Floyd **Design** Group

Miller Group Inc.

Traffic Engineering Solutions



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I. Introduction

For many years, Webster has attempted to address the myriad of traffic congestion and parking problems associated with a downtown struggling to maintain its ability to create jobs and retail opportunities for the community. In that regard, the Town of Webster commissioned a parking study by Cullinan Engineering to attempt to address the lack of parking in the downtown. When the study was finished, it located potential parking opportunities for the Town, but it also raised serious questions about whether or not the proposed parking locations were positioned to assist in the revitalization of the community.

When the Town of Webster was awarded a \$2,000,000 PWED Grant to facilitate downtown parking, the Town of Webster decided to use some of the funding allowed by the grant to analyze the downtown and decide whether or not those locations would maximize economic development opportunities. This study has resulted in a new approach for the parking lots and led to a consideration of the use of urban renewal as a mechanism for community redevelopment.

Study Purpose

The purpose of this study is to plan for the revitalization of downtown Webster. Through a public, State sponsored process, the town, the Community Advisory Committee, and the consultant team will develop a comprehensive strategy for revitalization.

Many of the issues and opportunities cited in this report were also noted in a 1989 Town of Webster Master Plan prepared by the Central Massachusetts Regional Planning Commission. That earlier plan was an assessment of and recommendations for town-wide issues, but it did have a chapter on the Main Street Business District that mentions a number of issues including:

- traffic and parking;
- vacant lots along Main Street;
- rehabilitation of the theater;
- the “fringe area” along Main Street near Union Street;
- riverfront open space opportunities; and,
- working with the State through various revitalization programs to implement change.

Many of these conditions still exist today, and others have been added to the list. This study addresses many of the issues the town has been struggling with over the last 15 years, as well as new issues.

This approach to revitalization focuses on the following actions:

- Resolving downtown traffic and parking issues
- Developing public open space along the French River
- Utilizing vacant land along the river

- Supporting existing retail on Main Street
- Infill development
- Rehabilitating historic buildings and finding new uses for upper floors

Study Area

The project study area corresponds to the core of downtown Webster with Main Street passing east/west through the center. The northern and western boundary is the French River. The southern boundary is approximately one block south of Main Street following the alignments of Barnes and Negus Streets and Church Lane. From Church Lane the project area follows Lake Street to Main Street to Peters Street and back to the French River to the north. In total the project area is 56.2 acres (see Figure 1).

Study Phases

Due to funding limitations this project was broken into three phases. Phase I is the analysis and planning phase, documented in this report. This phase focuses on proposed circulation improvements as well as an inventory and analysis of existing conditions related to building conditions, traffic, land and building use, underutilized land, demographics, and history. Also included in Phase I are conceptual ideas for open space and development along the French

Phase II will be the implementation of some of the parking recommendations - the preparation of final design documents for the construction of selected parking lots.

Phase III will involve the development of an Urban Renewal Plan based on the analyses and conceptual developed in Phase I. Phase III will include a market study, expanded development options, a comprehensive revitalization strategy, and acquisition and disposition plans.

Study Approach

Beginning with a set of basic development goals, this Phase I Study was a 3-stage effort. Stage 1: Inventory of the existing condition based on field observations, extant reference materials and interviews. Stage 2: Analysis of the existing condition with respect to development opportunities and constraints and the determination of development potential. Stage 3: Creation of development concepts that include the urban infrastructure, existing building stock reuse scenarios and new development opportunity. Throughout this planning process the Consultant Team solicited input from town staff and a CAC established specifically for this study. Considered as a Project Team, consultants, town staff and the CAC worked together to develop the final vision for Webster and determination of a Phase II construction project.

The Project Team

Consultant Team

- **Maguire Group Inc.**, New Britain, CT / Foxborough, MA: Project Managers, Engineers, Site Planners - Carl U. Mueller, L.A., Project Manager
- **The Wallace Floyd Design Group**, Boston, MA: Urban Planners – Carole Schlessinger, Principal Planner

these

This images will be placed in various place in the layout



The Spaulding Block is one of three buildings listed on this historic register



The Eddy Block is one of three buildings listed on this historic register



Main Street has a significant stock of handsome buildings



The Commerce Group's building represents a significant investment and commitment to downtown Webster



A number of buildings towards the western end of Main Street are in need of repair



The central blocks of Main Street are lined with three and four story buildings at the edge of the sidewalk



The upper floors of many Main Street buildings are vacant



Much of the area behind buildings on Main Street is uses as surface parking

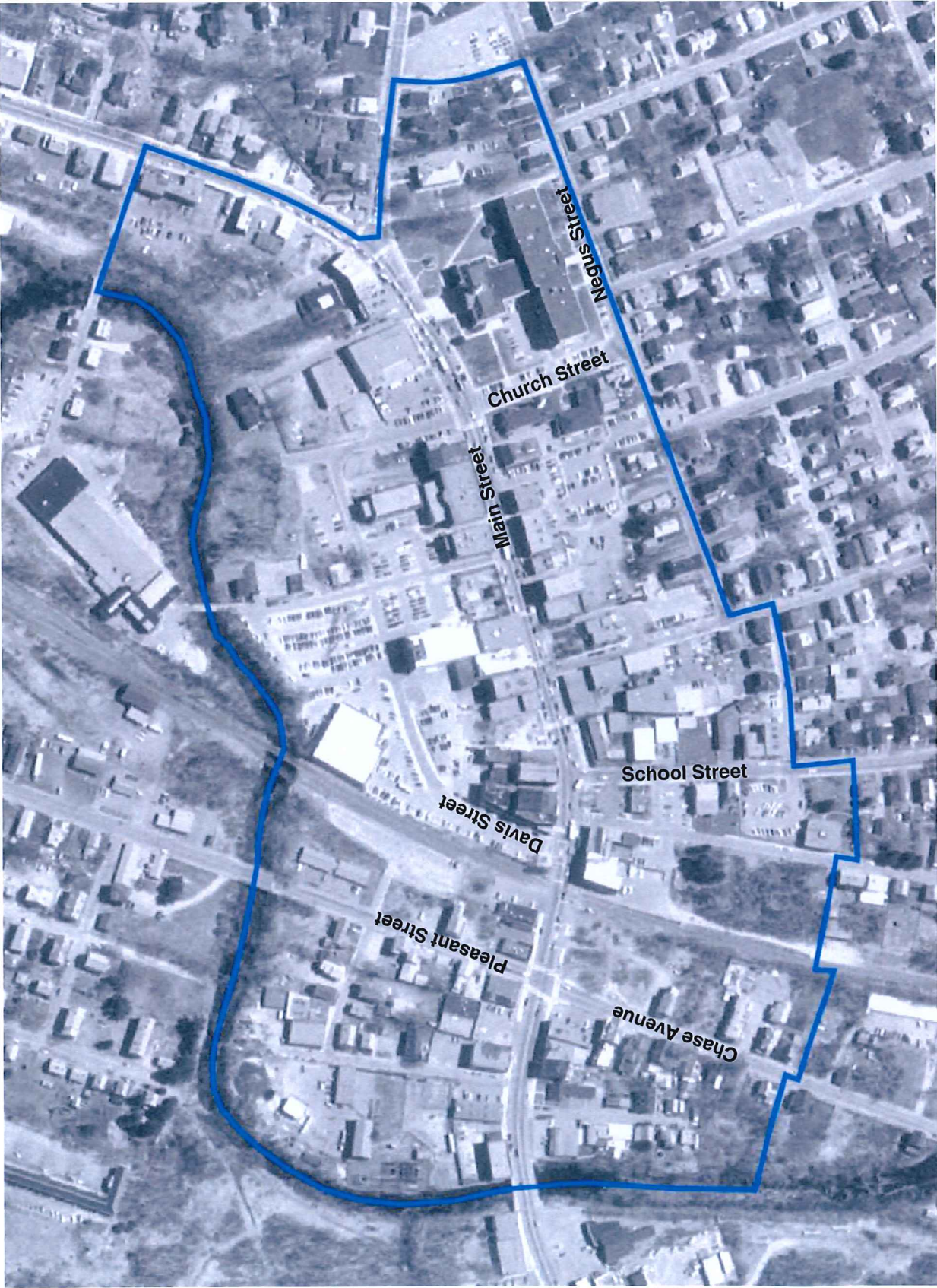


Figure 1: Study Area

- **The Miller Group:** Urban Renewal Specialist - Thomas Miller, Principal
- **Traffic Engineering Solutions:** Traffic Engineer – Bruce Hillson, P.E., Principal

Webster Town Staff

- Office of Community Development: Carol Cyr, Director

CAC Members

- Members:
- Robert Stawiecki: Selectman
- Mark Stankiewicz: Town Administrator
- William Radcliffe, Jr.: Resident
- Robert Craver: Director, Chamber of Commerce
- Philip Greil: Resident
- Terri Stone: Webster School System / WPC
- William Keefe: Police Department (Officer)
- Michael Hopkins: Resident / Local Developer
- Gary Luksha: Resident / Local Business Owner

CAC Alternates:

- Marilyn Travinski: Director, Tri-Valley Elders
- Randy Becker: Commerce Insurance Company
- Dan Marcoux: Resident / Local Business Owner
- Melissa Larini: Resident / Local Business Owner
- Nancy Healy: Resident / Local Business Owner
- Benjamin Smith: Resident / Local Business Owner

II. Existing Conditions

A Brief History of Webster

Ancient Paths

Although Native Americans inhabited the area around Lake Webster (nee Lake Chargoggagoggmanchauggagoggchaubunagungamaug) and what is today called the French River for hundreds of years, it was not until the mid 1600s that this area was discovered by European settlers. The Native Americans (Nipmucks) living in the area had a system of trails for traveling between the coast and inland rivers. The Europeans first learned of these trails from the Native Americans who brought corn to starving settlers in Boston. In 1633, John Oldham was the first European to travel west into interior New England. A year later William Pynchon followed the same route to Agawam and later settled it as Springfield.

Historians debate the route that these early explorers followed, but they either followed a route that became known as the Bay Path or a route later known as the Great Trail or the Connecticut Path. In 1645, Governor John Winthrop Jr., son of the first governor of Massachusetts, traveled from Boston to Connecticut in order to establish a settlement on the Connecticut coast. Winthrop traveled through Native American villages in places such as Wayland, Farnumsville, and Grafton before spending a night in the Douglas woods. The next day Winthrop crossed Lake Webster and then the French River in the area around Hill Street (South of Main Street) on his way to Hartford. Although Winthrop lost the Great Trail after crossing the lake, much of his route became part of the Great Trail which was the main path from Boston to Hartford. Other paths such as the Narragansett Trail also passed through the Webster-Dudley-Oxford area leading to Providence. This trail was a tributary trail of the Great Trail. Many of these routes later became formalized as “overland roads” and than as actual highways.

Industry

Samuel Slater (1768-1835) is known as the “Father of American Industry.” Born and trained in England, Slater disguised himself as a farmer and fled to America in 1789 to avoid British law that restricted skilled machinists from leaving the country with technical knowledge that could be used to compete against the British. After making his way to Providence Slater met Moses Brown, later known for funding Brown University. Brown owned a primitive cotton spinning mill powered by a water wheel in Pawtucket. Slater, upon seeing the mill, offered to build him new carding and spinning equipment with his knowledge of how it was being done in Britain. Within a year the refurbished mill was spinning the finest yarn made in America, equal in quality to that of English yarn. Slater’s mill and Eli Whitney’s cotton gin, invented two years later in Westborough, established the United States as an important manufacturer of cotton.

The Brown and Slater operations in Pawtucket were so successful that by 1811 there was not enough labor in the Pawtucket area to weave all the yarn produced at the mill. A friend of Slater who often traveled from Sturbridge, Massachusetts to Pawtucket, Rhode Island via what was once called the Narragansett Trail, told Slater of an excellent source of water power in the Oxford-Dudley area (Lake Chaubunagungamaug). This water source in farming country would provide both power and labor (families of farmers skilled in the hand loom process) to support the growth of more mills.

Slater and associates constructed their first mill in what is know as East Village on the site of the present day Cranston Print Works (northeast of the study area). In 1812, this area was part of Dudley and Oxford – the Town of Webster did not yet exist. Through the early 1810s and 1820s Slater and his partners began expanding their operations and purchasing land near the French River in an area know as South Village. These properties, know as the Village Cotton, Woolen, and Linen Manufacturing Company, are near the study area. Slater’s approach to industrialization was different than the system that grew in places like Lowell and Lawrence. In Lowell, the

“company town” approach lead to barrack-like housing for employees that was a complete break from the New England tradition. In Webster, Slater built single family homes and duplexes close to the mills. In Webster, mills did not grow into giant complexes as they did in other towns. Instead a dense residential fabric of streets and houses on small lots grew up around the mills.

The Town

As the Slater empire developed, populations grew in areas close to the mills. However, these areas were distant from the town centers of either Dudley or Oxford. The self-supporting mill hamlets had their own meetings houses and churches. A committee for the incorporation of a new town was formed, and despite some opposition, the town of Webster was formed in 1832. The committee for the incorporation wanted to name the new town after Samuel Slater, but Slater declined the offer and suggested it be named after Daniel Webster, one of the period’s great statesmen. At incorporation Webster’s population was 1168 people who were previously residents of Dudley and Oxford. Although at the time of incorporation it was slightly smaller than its neighbors, Webster quickly outgrew Dudley and Oxford in terms of population and employment.

Slater died in 1835, only 3 years after the founding of the Town, but his legacy lived on. Slater’s sons carried on and expanded the business through the 1800s. New mills were built in the North Village and the South Village (Slater Woolen Company). The Slater sons also established a department store in the South Village with branch stores in the North and East Villages. During this period Horatio Nelson Slater built the family business into one of the leading textile manufacturing companies in the United States. Horatio was also instrumental in bringing the railroads to town to serve the mills. The Norwich and Worcester Railroad passed through the South Village (present day downtown Webster) and the western edge of the study area. The introduction of the train depot in this location is probably one of the most significant factors in the development of downtown Webster at South Village. As happened in many other cities, the train station brought with it the need for hotels, restaurants, services, and other things that travelers needed; all of these uses were established on Main Street within a few blocks of the railroad station. Two generations of Slater sons managed and expanded various Slater ventures until 1899 when Horatio Nelson Slater, Jr. died and willed the business to non-family trustees from Webster and Worcester.

The Slater family had the largest impact on the town’s development and various Slater businesses led industrial development through the 1800s, but there were a number of other industries active in Webster during this time. In particular, the shoe industry that was very prevalent throughout New England also had a foot hold in Webster. Before the Civil War shoes that were cut in Natick were shipped to Webster to be “bound and bottomed” in a cottage industry in homes around downtown Webster. Later, small shoe binding factories were set up in buildings around Main Street in downtown Webster.

With the exception of the Great Depression industries in Webster thrived through the second World War. Factories provided cloth for military uniforms needed during the war years. By the 1930s Webster had become the primary service center for many surrounding communities.

There are still signs of the textile industry in Webster. The Cranston Print Works, on the site of Slater’s original mill, Anglo Fabrics in North Village, and Steven’s Linen Associates in South Village, but across the river in Dudley are reminders of Webster’s long history as a mill town. Since the 1970s Webster, like many small northeastern cities has been in decline. In the 1980s interstate highway I-395 was extended from Worcester to Webster and on into Connecticut. This provided access to larger employment centers and has turned Webster into a bedroom community. Many long time residents now work out of town and many out of towners have moved to Webster from places like Worcester to find less expensive housing. A long time resident expressed concern in a 1993 newspaper article saying that the town “... is now basically gas stations, barrooms, pizza places and packages stores.” The same person also expressed concern that historic buildings and houses were being replaced without enough thought.

Today Commerce Insurance is the largest private employer in downtown Webster. They have made recent investments downtown and will continue to be a player in the redevelopment of downtown.

Downtown Demographics

Most of the study area is located in two Census block groups (numbers 2 & 3) that are both in Census tract 7543. The block groups are significantly larger than the study area but they encompass both the commercial areas and some neighboring residential areas that are the focus of this plan.

In 2000 Webster's population was 11,681. The two downtown block groups account for about 18 percent of this town wide population and 19 percent of town-wide households. Five hundred and nine "family households" lived within the two block groups, which accounts for about 18 percent of families in the entire town. In the downtown block groups the percent of families with children under 18 is 59 percent and 39 percent. This compares to 49 percent of families in the entire town that have children under 18.

In downtown Webster there are neighborhoods that are very close to the main commercial area. There are also a number of apartment buildings mixed into the commercial fabric. The relatively high percentage of residents who walk to work reflects this development pattern and the economic opportunities in downtown Webster. Eight to nine percent of the working population of the two downtown block groups walks to work. On a town wide basis only 4 percent of the working population walks to work.

Median income (1999) in downtown block groups was slightly lower than the town wide median. Downtown it was \$25,000 and \$27,000 (block group medians), while the town wide median is \$32,000. The per capita income in each of these two block groups was higher than for the whole town. This is likely a result of larger households and/or households with more children living outside of the two downtown block groups.

The downtown block groups contain 20 percent of town wide housing units. A larger portion of housing downtown is renter occupied, 78 and 87 percent in the block groups compared to 58 percent town wide. Median rent in downtown was reflective of the town wide median. The median housing value of owner occupied units was \$101,000 and \$132,000 in the downtown block groups and \$109,000 on a town wide basis.

Conclusions

The downtown area appears to be a desirable housing location, attracting residents with higher per capita incomes. The presence of residents with higher per capita incomes combined with competitive or higher housing values indicates the opportunity for developing increased downtown housing options.

Land Use and Urban Character

Downtown Webster has a mix of both commercial and residential uses within the 56 acre study area (see Figure 1). There are a few light industrial / auto-oriented uses south of Main Street and west of the railroad tracks but none are particularly obtrusive. The land use map (see Figure 2) shows about 40 percent of the land area as either vacant or parking and an additional 30 percent as rights-of-way. The only open space in the downtown area is the landscaped grounds of town hall and the library.

South of the commercial uses along Main Street land use is primarily residential. North of Main Street most of the land area is either vacant or used for parking; beyond this vacant/parking zone is the French River. North of Main Street and west of the railroad tracks is a small district of light industrial uses and a few houses in poor repair.

Many small downtowns in Massachusetts have mistakenly replaced entire blocks of historic buildings with parking lots and suburban style development. Fortunately, in the core of downtown Webster, the town has maintained much

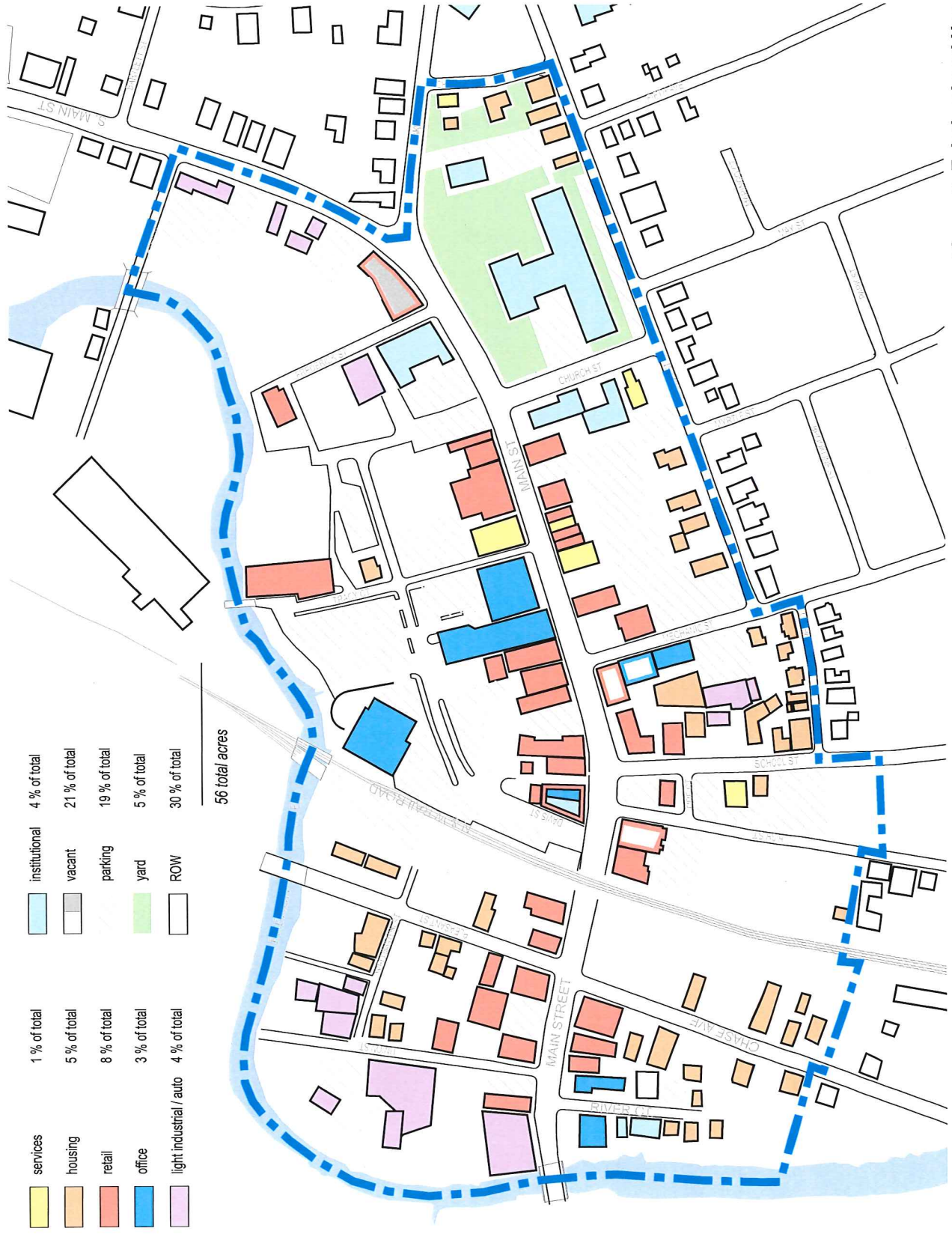


Figure 2: Existing Land Use

of its traditional/historic fabric. Unfortunately, many of these buildings are only partially occupied; many upper floors are vacant. Main Street has a significant stock of historic buildings from the late 1800s and early 1900s. The National Register of Historic Places listed "Main Street Historic District" encompasses both sides of a portion of Main Street. There are also three listed buildings: the Eddy Block, the Shumway Block, and the Spaulding Block. Figure 3 identifies these buildings and the district. With the exception of a couple of vacant lots and one or two buildings in poor repair, the intact urban character of Main Street should be the envy of many downtowns in the northeast. Most buildings built over the last 20 years have respected the street edge and traditional context of Main Street.

The south side of Main Street is intersected by a series of streets that provide good vehicular and pedestrian access to and from the adjacent residential neighborhood. The north side of Main Street and the area behind it is hemmed in by the railroad track and the river. There is less access to this area than there is to the district south of Main Street. There are bridges across the river at Tracy Court and Peter Street, but they both dead end on the Dudley side of the river.

Today, the river forms the northern boundary of downtown. The river edge exhibits a variety of conditions, including industrial uses, buildings on the edge of the bank, steep banks, and railroad and automobile bridge crossings. The most common condition is the lack of attractive pedestrian access to the river, and the lack of development that takes advantage of the potential amenities of the river in terms of views and open space.

Conclusions

There is a great amount of underutilized land (currently vacant and/or surface parking) within the project area, and a large amount of vacant building area, particularly on upper floors. In addition, there is a very small amount of open space serving area residents and visitors to downtown. There are opportunities for redevelopment throughout the downtown, including all along the riverfront.

Parcelization & Ownership

Parcels in the northern half of the project area, north of Main Street, are typically larger than those to the south. The parcels in the blocks between the railroad tracks and Peters Street are deep; a few of them stretch from Main Street to the river. Other parcels only have access from dead end streets such as Tracy Court and Frederick Street.

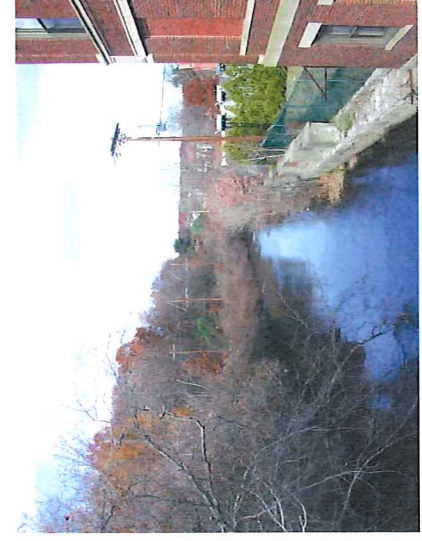
There are five significant landowners in the downtown area: the Town, the Commerce Group, Nancy Healy, the Cassidy Group and Daniel Marcoux (see Figure 4). South of Main Street the ownership is more diverse and parcels are typically sized for single or multi family houses. Figures 5 and 6 illustrate parcelization and ownership for the entire project area.

Conclusion: The existing parcelization and ownership patterns provide some ability to consolidate parcels to create larger development opportunities, particularly on the north side of Main Street. There are many small parcels and owners on both sides of Main Street.

Development Plans

There are several noteworthy projects that are currently in various stages of development in downtown Webster:

- The theater (*lot G 7.1*), that has been condemned for many years, will be demolished and the land will be transferred to the town. This study is recommending that the "new" land area be part of an expanded parking lot project:



Existing French River
edge conditions

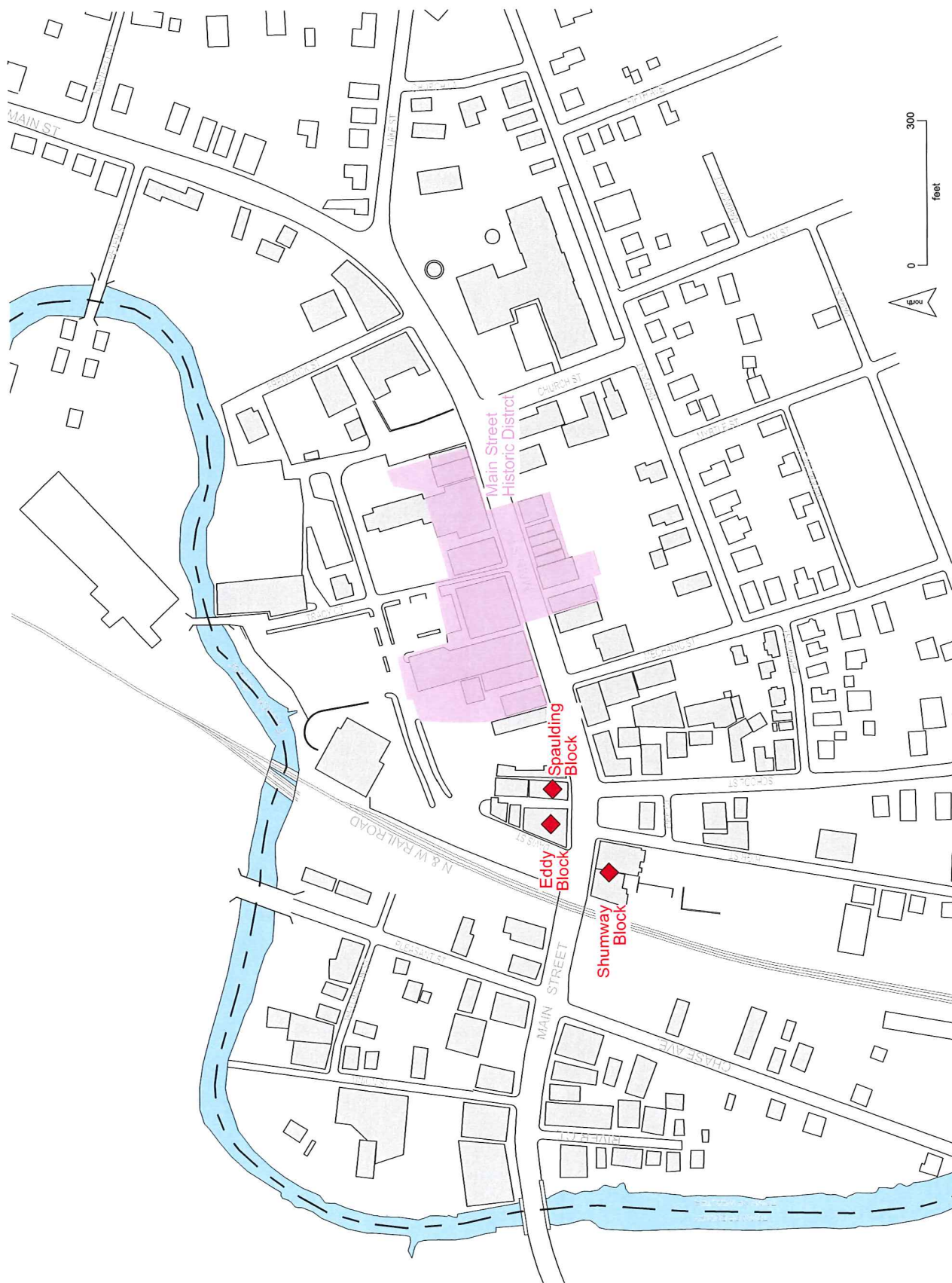


Figure 3: Historic District & Buildings

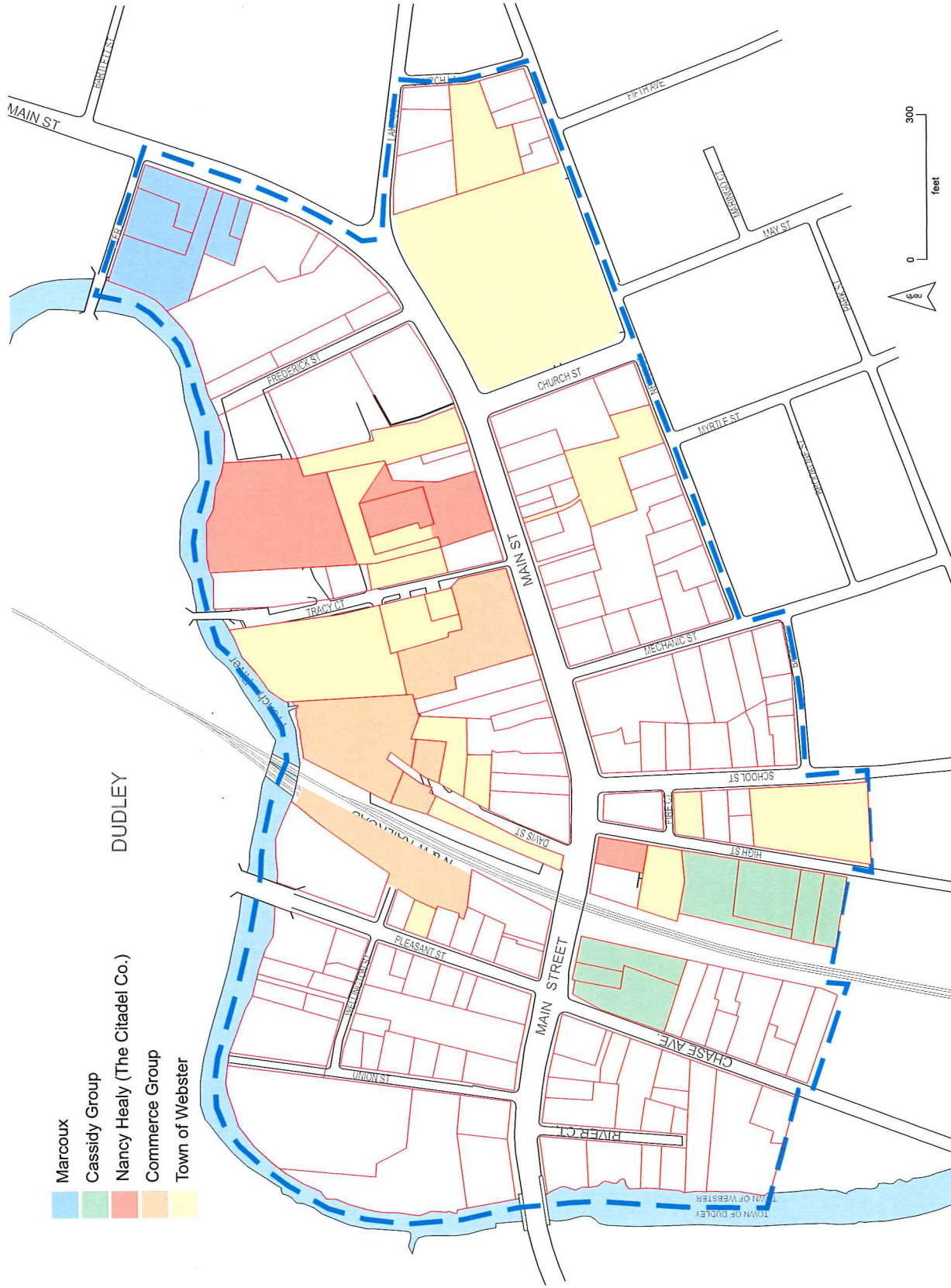


Figure 4: Major Land Owners



Figure 5: Existing Parcels (Property Lines)

Webster Downtown Plan
Phase I Report[illegible]

Figure 6: Parcel Ownership Table

- The local Railroad Club has been acquiring old train cars and is actively trying to obtain a small railroad station that they would like to relocate on a parcel of land off Pleasant Street and adjacent to the rail corridor (this land is currently owned by the Commerce Group). The Club is interested in developing this area as a railroad museum. They currently have one restored caboose sitting on a piece of siding at the intersection of Davis and Main Streets.
- The owner of 385 Main Street, on the northeast corner of Fredrick, is interested in rehabilitating his buildings. These buildings are currently vacant. The proposed use is unknown at the time of this writing.

There are also several large parcels that provide the opportunity for future development:

- Just north of the study area is the JG Motors site which is being cleaned up by a brownfield development company. The owner is currently looking for a potential buyer.
- The Commerce Group Warehouse (Assessor's Block F): This building was designed to function as a warehouse. At this time the building is only partially utilized and Commerce Group representatives have indicated that future warehousing needs will probably be accommodated at another site close to their main offices near Route 395. Further, that selling or leasing the building at some time in the future is a consideration. Given its uncertain future and because this building is relatively new, in very good condition and in close proximity to the railroad and the French River, the warehouse should be considered to be a part of any new land use / reuse scenarios. In keeping with the study theme (maintain and support small business on Main Street), any new use for this building should not conflict with Main Street opportunities. However, there may be some reuses that are specific to the building location that could create a unique situation not duplicated on Main Street and, in fact, one that would reinforce new development activities in the river corridor. A Market Study will eventually provide better-supported options however, preliminary considerations might include: an upscale restaurant, or specialized retail (antiques) or service facility (healthcare).
- High Street: The Cassidy Group Inc., a real estate brokerage firm, currently owns Assessor's Block T, Lots 4, 5, 6, 7 on High Street. The combined area of the lots is approximately 1.2 acres. The lots are undeveloped and completely vegetated with secondary growth. The most dramatic aspect of the land is the elevation differential of 25+ feet between High Street and the railroad corridor. Visible ledge outcrop indicates rock at or near the surface. This study rejected this site as a potential new parking lot location due in part to the terrain. However, the site does lend itself to certain types of building construction. The substrate will apparently provide excellent bearing capacity, and building design options are uniquely flexible to accommodate elevation differentials. Being in close proximity to both the CBD and the Senior Center, this site could be considered for senior housing.

Conclusions

There are a few development plans and larger opportunity areas, but there is currently very little ongoing development activity. The existing activities are piecemeal, occurring with little coordination and not fully taking advantage of available opportunities.

Infrastructure

Community infrastructure is understood to be comprised of all the functional site elements that structure a community. These elements include the underground and above ground network of utilities, culverts and pipes, various site support structures and pavements (walks, roads and parking lots). As a municipal improvement planning effort focusing on reuse and new development scenarios to foster economic growth, it is the circulation infrastructure (roads, parking and walks) that is considered of greatest significance. While the CBD is the focus of

attention for this study, certain aspects of the study area infrastructure are impacted by developed areas and future growth potential outside the CBD; in particular is circulation (roads/parking), hydrologic related components, water and sanitary sewer services.

Circulation

Vehicular

Origins and destinations of drivers determine the traffic patterns that characterize the CBD vehicular impacts; e.g., the major vehicular movements between the I-395 corridor and points south and west via the Town of Dudley, MA. Vehicular movement (direction and volume) in the Webster downtown is a topic that appears consistently in town studies and development plans. Traffic volume and management is recognized as a key issue in any discussion about the CBD. This study builds on previous observations and data by generating new information specific to the CBD and developing proposals with a goal to make the significant Main Street vehicular flow (22,000 + ADT) work for, not against, the economic health and safety of the Webster CBD. The following tasks were undertaken to determine the existing condition:

- Identifying Roadway and Traffic Capital Improvements being considered by the Town or by the Massachusetts Highway Department.
- Collecting information for existing conditions including:
 - ◊ Reviewing the “Downtown Main Street Parking Study”, prepared by Cullinan Engineering during 1999;
 - ◊ Obtaining traffic signal plans from the Town of Webster Engineering Department;
 - ◊ Making morning, afternoon and Saturday midday peak period traffic counts at the intersections of Main Street at South Main Street and Lake Street, and Main Street at Pleasant Street and Chase Avenue;
 - ◊ Making field measurements of existing roadway conditions;
 - ◊ Coordinating with MHD to identify any roadway improvements planned for the Downtown area.
 - ◊ Making visual observations of traffic patterns and parking demands during morning, midday and afternoon peak periods.
- Completing capacity and queuing analyses for existing conditions to assist in identifying concepts and alternatives for the future conditions;

Traffic Control

Route 197 (Main Street and South Main Street) is an Arterial Roadway that carries traffic into and through the Study Area of downtown Webster (see Figure 7). The road enters Webster from Dudley as it crosses the French River and continues easterly as Main Street for a distance of approximately 1,800 feet where it curves to the left, travels through the intersection with Lake Street and proceeds toward the north as South Main Street. The following streets intersect Main Street as it traverses through the Downtown.

- Streets intersecting from the North
 - ◊ Pleasant Street
 - ◊ Davis Street
 - ◊ Tracy Court (one-way away from Main Street)
 - ◊ Dugan Drive

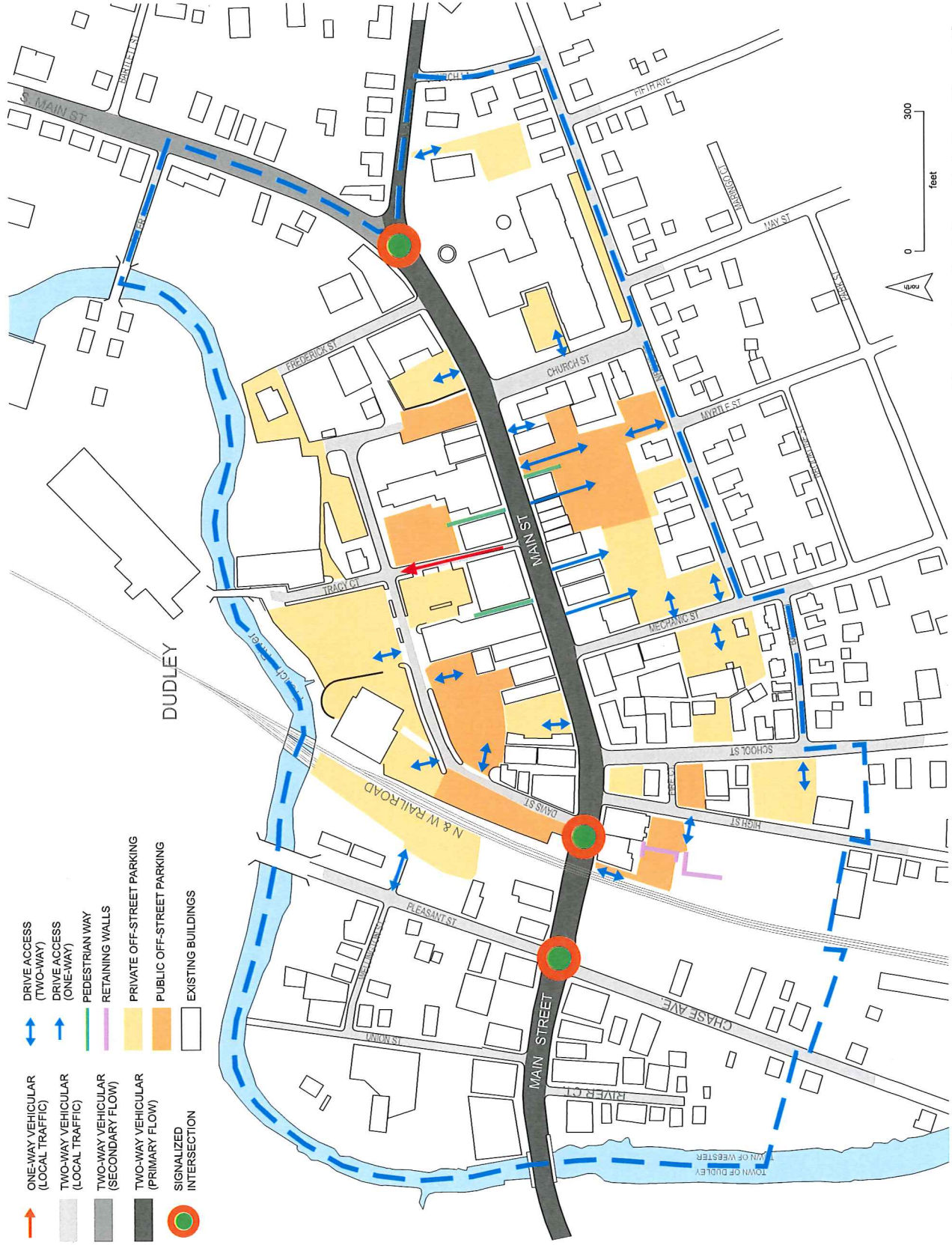


Figure 7: Project Area Existing Circulation

- ◇ Frederick Street
- Streets intersecting from the South
 - ◇ Chase Avenue
 - ◇ High Street
 - ◇ School Street
 - ◇ Mechanic Street
 - ◇ Church Street

Traffic signals control traffic at the intersections at either end of the Study Area: Main Street at Pleasant Street and Chase Avenue (about 450 feet east of the Dudley Town Line), and Main Street at South Main and Lake Streets (about 1,700 feet east of the Pleasant Street and Chase Avenue intersection). The Providence and Worcester Railroad tracks run north to south and cross Main Street about 200 feet east of the Pleasant Street/Chase Avenue intersection. Both signalized intersections provide exclusive pedestrian phases. The intersection at Pleasant Street and Chase Avenue also provides railroad pre-emption. The traffic signal for Pleasant and Chase also includes traffic signals facing westbound traffic located just east of the Providence and Worcester railroad crossing. These signals stop all traffic before the tracks when the green phase for Main Street is terminated at Pleasant and Chase. In addition to the pedestrian cross walks and exclusive pedestrian phases at the signalized intersections there are seven pedestrian cross walks at mid-block and unsignalized intersections throughout the Study Area including the following locations:

- Just east of Davis Street
- Midblock between School Street and Mechanic Street
- Just east of Mechanic Street
- Midblock between Mechanic Street and Tracy Court
- A short distance east of Tracy Court
- Just west of Dugan Drive and Church Street
- Just west of Frederick Street

The street system within the Study Area does not allow traffic on any of the side streets to gain access to the signalized intersections at the east and west ends of the Study Area. There are no railroad crossings north or south of Main Street that would allow drivers to continue to Pleasant Street or Chase Avenue and subsequently enter Main Street through the signalized intersection at the west-end of the Study Area. Similarly, the signalized intersection of Main Street, South Main Street and Lake Street at the east-end of Downtown does not provide access to and from the land uses north or south of Main Street.

Main Street Environment

Main Street is typically forty-eight to fifty-two feet wide throughout the Downtown Study Area. The roadway is slightly wider in the vicinity of High and School Streets where the width is fifty-five to fifty-seven feet wide. There is typically a single lane of travel in each direction through the Study Area with additional turn lanes provided at the signalized intersections. There are sidewalks along both sides of Main Street and nearly all the buildings along Main Street are situated at the back of the sidewalks. Notable exceptions are the Town Hall (set back with a grass front lawn) and Dunkin Donuts (set behind its parking lot).

Parking is allowed along both sides of Main Street for most of its length through the Downtown. Only the section between High and School Streets along the south side of Main Street (in front of Dunkin Donuts) does not allow on-street parking. According to the Downtown Main Street Parking Study there are 78 on-street parking spaces along Main Street through the Downtown Study area¹. The parking study also indicated that the 1998 Average Daily Traffic (ADT) volume on Main Street was 22,000 vehicles per day. Turning movement counts made during December 2002 for the Downtown Study indicate that the two-way traffic volumes on Main Street are 1,600 vehicles per hour during the morning peak hour, 1,615 vehicles per hour during the afternoon peak hour (which corresponded to the school dismissal period) and 1,875 vehicles during the Saturday midday peak hour.

As demonstrated by the traffic volumes, Main Street serves a combination of people who are destined to Downtown Webster and people who are traveling through Webster as they commute to and from work or to other locations remote to the Downtown Area.

Field Observations

Observations of traffic patterns through the Downtown Study area were made during the peak periods. The observations identified several traffic conditions and driver behavior patterns along the Main Street corridor. During the weekday mid-afternoon and evening, and Saturday late morning peak periods we observed lengthy backups of traffic along Main Street. These backups were caused by one or a combination of the following reasons:

- Traffic queuing at the signalized intersections
- Drivers stopping for pedestrians crossing at one of the midblock locations
- Left turning vehicles blocking through traffic on Main Street
- Drivers stopping to let side street traffic enter Main Street
- Drivers stopping to let vehicles park or leave on-street parking spaces

Backups were not observed during the weekday noon period. However, beginning shortly after 2:00 PM, when the schools within and adjacent to the Downtown Study Area are dismissed, eastbound traffic at the Lake Street intersection started to back toward the west along Main Street. Traffic was observed to queue back to the vicinity of Mechanic and School Streets during this mid-afternoon period. This pattern continued until nearly 3:00 PM when traffic returned to normal. During the afternoon commuter period, westbound traffic backed from the Pleasant Street/Chase Avenue intersection (traffic actually stopped east of the railroad tracks) to the vicinity of Church Street. This pattern continued for a large portion of the hour from 4:30 PM to 5:30 PM. Lengthy backups were also observed during Saturday morning when traffic routinely backed from the Pleasant Street/Chase Avenue intersection to near the Church Street intersection.

Throughout the day it was observed that drivers consistently stopped for pedestrians crossing Main Street at one of the many mid-block cross walks and many drivers on Main Street stopped to allow vehicles to turn onto Main Street from a side street. Each time drivers stopped for pedestrian or entering vehicles, traffic would begin to queue. Depending on the time of day and number of cars traveling Main Street, the queue could become quite lengthy. Another factor affecting travel and backups on Main Street is left turns from Main Street onto one of the many side streets. Because the centerline is at the middle of the road, there is about 25 feet of roadway in each direction on Main Street. Within this width there is on-street parking (about eight feet of width is typically needed for parallel parking) and about seventeen feet for vehicular travel. The width provided for travel is not quite wide

¹ Reported by the Downtown Main Street Parking Study prepared by Cullinan Engineering.

enough to allow through traffic to continue past vehicles turning left from Main Street onto one of the many side streets; hence, these left turning vehicles often cause backups as they wait for an opportunity to make the turn.

One last observation involves parking in front of Town Hall and the presence of a postal mailbox just east of the pedestrian crosswalk. Parked cars in front of Town Hall limit the ability for drivers who desire to turn right onto Lake Street to enter the short right turn lane that extends back from Lake Street to the vicinity of the mail box (about 125 feet). Because right turning vehicles cannot readily access the right turn lane during the mid-afternoon and PM peak periods when traffic volumes are at their highest, the right turning vehicles are incorporated into the through lane queue which then extends approximately 1,000 feet during the peak periods. Because parking is not prevalent in front of Town Hall during the morning peak period and Saturday morning/midday, right-turning vehicles can more easily enter the right-turn lane, and do not add to the queue for through traffic.

Driver behavior in the Downtown Area is beneficial to pedestrian and commercial activities along Main Street, as pedestrians apparently feel confident that drivers will yield to them when they cross Main Street. The presence of traffic signals at both ends of the study area, the mid-block cross walks at several locations between these signalized intersections, and the heavy traffic combine to slow travel on Main Street which, in turn, creates a beneficial environment for pedestrian and commercial activity. The flip side of this equation is the fact that through traffic experiences substantial delay as it travels through the Study Area, particularly when traffic peaks during the weekday mid-afternoon, late afternoon commuter peak and Saturday morning.

Analysis and Conclusions

Capacity and queuing analyses were completed for the existing conditions and compared with the visual observations made during the peak periods. The Level of Service (LOS) is determined differently for signalized intersections, unsignalized intersections with multi-way STOP, and unsignalized intersections with STOP control on the minor street approaches. For signalized intersections the analysis considers the operation of all traffic entering the intersection and the LOS is determined for the overall conditions at the intersection. Levels of Service for signalized intersections are defined by the average delay per vehicle as indicated below:

Level of Service	Avg. Delay/Vehicle (in Seconds)
LOS A	≤ 10.0
LOS B	> 10.0 and ≤ 20.0
LOS C	> 20.0 and ≤ 35.0
LOS D	> 35.0 and ≤ 55.0
LOS E	> 55.0 and ≤ 80.0
LOS F	> 80.0

The capacity analyses also provide queue lengths along each approach to the signalized intersections. Table 1 presents the results of the capacity analyses for existing conditions and the 95th percentile queues along Main Street that are presently experienced at the two signalized intersections at either end of Main Street.

The queues presented in the table for the Main Street at Lake Street intersection reflect the ability of vehicles to access the right turn lane on Main Street as they approach Lake Street and reflect the field observations made for the Downtown Study.

Table 1: Signalized Intersection Capacity and Queue Analysis – 2002 Existing Conditions

	Peak Hour	Delay	LOS	Eastbound Queue ²	Westbound Queue
Main Street at South Main and Lake Streets	AM	17.6	B	425	275
	Mid PM	35.2	D	1025	550
	PM	26.1	C	985	575
	Sat Mid	17.3	B	550	525
Main Street at Pleasant Street/Chase Avenue	AM	17.2	B	775	400
	Mid PM	19.8	B	700	675
	PM	19.4	B	675	600
	Sat Mid	19.0	B	725	600

NOTES:

LOS = Level of Service

Delay = Average delay, in seconds, to all vehicles entering the intersection.

Pedestrian Circulation

Despite the various issues associated with the stagnant economic health of the CBD, Webster is fortunate to have a downtown land use framework with off-street parking generally located behind the Main Street businesses and a Main Street that is essentially uninterrupted building facades. From an urban planning perspective, this arrangement is considered fundamental to good urban structure as the Main Street presents a consistent building face in the downtown environment. This structure also works well for the pedestrian. Vehicles are directed to the parking areas and the pedestrian is, in turn, directed via walkways (alleys) to the Main Street sidewalks. How well this arrangement works is a function parking lot layout, directional signage and the provision of a safe environment. To this may be added the amenity of aesthetics, or good design. Regarding the Webster CBD, observations include:

- Some parking lot layouts tend to be poorly defined thereby promoting unsafe pedestrian movements within the context of the parking lot.
- Pedestrian ways from parking areas to the Main Street sidewalks are not well marked.
- Some access driveways from Main Street to the parking areas are abrupt and can present hazards to the pedestrian. This is condition often occurs in other urban areas and is not peculiar to Webster.
- Pedestrian access to parking lots located to the north of Main Street is more difficult due to elevation differentials and poor directional cues.
- There is no apparent invitation to approach the riverfront as a recreational or aesthetic opportunity.

² Morning peak and Saturday midday queues reflect the ability of right turning vehicles to easily enter the right turn lane at the Lake Street intersection.

Conclusions

Improvements to pedestrian circulation within the CBD must be made in combination with improvements to the vehicular circulation and parking conditions. Existing as well as proposed new land uses should acknowledge the pedestrian's need for direction, access and safety. Some factors to consider as design guidelines:

- The pedestrian, as driver entering the parking lot, should be provided with visual cues to walkways.
- Walkways connecting parking to building rear entries and Main Street sidewalks need to be easily identified, safe and well maintained.
- All walks must be ADA accessible.
- Destinations may not always be line-of-sight apparent, but the pedestrians sense of origin / destination should always be clearly understood. This is a function of signage, graphics and night illumination.
- Amenity is an important ingredient and should be made a part of any improvement.

Parking

The *Downtown Main Street Parking Study*, Cullinan Engineering, January 1999, confined its parking analysis to the CBD as generally defined by the railroad corridor on the west, Frederick Street on the east, the French River on the north and Negus Street on the south. It is within these bounds that the majority of business is concentrated and, by extension, where all related parking needs and their accommodation occurs.

The Cullinan Study has been utilized as a baseline reference for this study. Of specific value are the parking counts, utilization percentages and occupancy rates determined in the Cullinan document. This study has applied the Cullinan data within a proposed land use framework that considers future new development primarily within areas north of Main Street as well as reuse of existing building space above ground floor levels. The following Cullinan Study points are also pertinent to this study:

Downtown Goals

- Enhance retail and commercial business
- Maximize business opportunities
- Create a vibrant business environment
- Improve traffic circulation and accessibility to the CBD
- Provide sufficient parking for existing uses
- Plan for future parking demand

Cullinan Study Findings

The Cullinan Study is selective, counting on-street parking along Main Street and within one (1) block north and south. Off-street parking counts exclude the R-Block and the Town Hall lot.

- There are 182 on-street parking spaces (most with 2-hour limits).

- On-street parking peak-hour use occurs mid to late morning (127 spaces / 70% occupancy rate).
- There are 679 off-street parking spaces (long-term). * Note: the total is comprised of both public and private lots and includes 68 spaces in the Commerce Group lot located to the west of the railroad corridor.
- Of the total 861 spaces (on street + off-street), there are approximately 292 spaces available at any given time (occupancy rate data). Of the 292 spaces, an estimated 237 spaces exist in private lots.
- Typical weekday occupancy for off-street parking is 487 spaces (72% occupancy rate). Lot location determines lot occupancy; i.e., the closer to Main Street, the greater the utilization. The total occupancy rate reflects the fact that some lots are undesirable due to relative distance from point of destination, perception of security and accessibility. Total occupancy rate is also affected by public / private lot usage. A greater percentage of parking spaces in the private lots are unused and, ostensibly, not available to the public.
- Planned expansion by the Commerce Group (+ 200 parking space need) combined with existing and projected deficits in the balance of the CBD (+ 100 parking space need) indicates that near-term there will be a 300 parking space need within the CBD.
- In addition to improvements to the efficiencies of existing parking lots, recommendations also included land acquisition and the construction of new parking facilities. The potential for construction of a multi-level parking garage was explored as a means of generating additional parking within a vertical context thereby reducing the need for conventional surface parking. However, at the time this proposal was under consideration (1998-1999), it was determined that a parking garage was not a tenable solution due to construction cost, long term maintenance issues, security and concerns related to the possible need to create a fee-based use.
- The Cullinan Study was instrumental in the Town's securing of a State Public Works Development Grant (PWED) designed to provide financial assistance to communities with proposed infrastructure improvement programs. Two (2) projects were initially earmarked for construction; (1) a new 130 + space parking lot to be located on High Street and efficiency modifications to an existing gravel lot off Main Street which would include a new connection and improvements to an existing paved lot accessible from the Access Drive.

Existing Parking Conditions

Public Parking

Parking within the Webster CBD is accommodated within conventional parallel city street parking aisles with metered controls; most with 2-hour time limits. Unmetered parking is available in designated town lots located behind Main Street businesses (see Figure 7). Public parking also occurs, to a limited extent, in some of the smaller lots that function as 'private' lots for individual business customer parking. Conversely, some public spaces intended for interim CBD shopper use are compromised over 8-hr periods by local employees. As observed in the Cullinan Study, the designated public lots located close-in to Main Street are convenient for shoppers and experience occupancy rates of 100+%, while others that are somewhat removed from Main Street have occupancy rates of under 50%. Even given the trespassing of the public on private lots, there exists today a deficit of convenient parking spaces within the CBD. The Cullinan Study has indicated that another 100 public spaces are required to mitigate the current parking deficit.

Conclusions

This study interprets the public parking problem as being the result of several factors (some of which have been identified in the Cullinan Study):

- The parking problem rests solely with the off-street parking arrangements. There are too few designated public parking spaces located with convenient access to Main Street shopping and services.
- Employee parking is occurring in spaces that should be designated for the interim visitor. This is true for metered street parking as well as for the off-street lots.
- Parking lot layouts (in general) have evolved over time based on need. Consequently, parking efficiency has been lost. This is evident when the CBD is viewed as a whole.
- Directional signage is substandard or non-existent making access to public parking viable only for those having familiarity with the CBD. Visitors would tend to be discouraged and decide, instead, to move on to a more accessible choice; perhaps at a destination outside the Webster CBD.

Private Parking

Compounding the public parking deficit is the arrangement between The Commerce Group and the Town whereby a large town-owned parking lot (124 spaces) fronting the French River is largely utilized by Commerce Group employees. This lot supplements Commerce Group privately controlled lots north of Main Street providing the 250 spaces currently occupied by their employees. Unlike the Commerce Group lots which typically run at 90+% occupancy rates (the exception being the Commerce Group owned lot along the west side of the railroad corridor), the balance of the off-street private parking lots within the CBD are realizing less than 50% occupancy rates.

Conclusions

Private parking accommodations are generally convenient to their users. The Cullinan Study data would indicate that private parking capacity is not an issue except where some private lots, because of their accessibility, are trespassed upon by CBD employees not affiliated with the lot owner. Control, in these instances, becomes an enforcement issue. Other considerations are that:

- As with the public parking lots, evolved layouts have resulted in certain inefficiencies.
- The apparent under-utilization of available private parking spaces represents a potential opportunity for the town; e.g., introduction of a public / private parking space shared use program.
- In the short-term there are some opportunities to improve private lot capacities. The Senior Center is a prime candidate requiring relatively minor site work and pavement re-striping.
- The Commerce Group owned lot located along the west side of the railroad corridor is virtually unused due to poor proximity to the offices and security concerns. This lot would better serve an adjacent facility or a new use.

Utilities / Water Service / Sanitary Sewer / Storm Drainage

Electric Services

Primary 3-phase overhead and underground service (13.8 kVA) is provided by Massachusetts Electric Company (local contact Michael Thompson (508-860-6400)). CBD primary service is underground in Main Street fed via a system of ductwork and manholes. Overhead 3-phase service is available on Peter and Pleasant Streets. Most users in the CBD are 3-phase serviced with some older services still 1-phase. Primary service to individual users originates at one of several electrical manholes, which, in turn, feed a pad-mounted transformer (generally located at rear of building). Secondary service from a transformer services one or more users. New service requests will be encouraged to use a 3-phase service connection.

Should new service requests require extension of the primary service (overhead or underground) the utility will design and administer such expansion based on service need. A utility backcharge will be levied against the town or private stakeholder in an amount that is a factor of anticipated revenue for the utility and actual cost of installation. Currently, time lag between initiation of a new service request and actual power availability can range between 6 to 12 months. At this time, there is sufficient power to provide essentially any new service that may be requested in the CBD.

Natural Gas

KeySpan Energy is the provider (previously known as Boston Gas). Main Street carries a high-pressure and a low-pressure line. Most businesses in the CBD utilize natural gas for some aspect of their facility. KeySpan Energy has a local presence located on Union Street (Assessor's Lot A-1). At this time there are some plans to upgrade services in Wellington and Pleasant Streets (refer to Map_). There is sufficient gas pressure to service future development in the CBD. (Local contact: Mark D'Amico @ 508-726-8550).

Telecommunications

Verizon is the local provider. Services are overhead and underground. The preferred method of customer service delivery is underground thereby providing a service that is more easily serviced and less likely to fail due to environmental impacts (wind, fallen debris, etc.). Verizon is currently one of the pre-eminent national telecommunications provider. A full-range of services is available to the Town of Webster. New as well as existing businesses can take advantage of such Verizon wired offerings as: special local/long distance calling packages, Centrex Systems, PBX Trunk Lines, T1/T3 and DSL internet, Digital Data Service (DDS), FlexGrow, Frame Relay, ISDN and Transparent LAN Services (TLS). As the nation's largest wireless provider, Verizon is able to service 97 of the top 100 wireless markets. Webster's local Verizon Account Executive is: Thomas Moriarty (413-785-0760).

Water/Sanitary Service/Storm Drainage

These services are impacted by growth in other parts of the town of Webster. Any expansion of existing facilities or new development within the study area must be cognizant of town resources (potable water wells) and service capacities (wastewater treatment) as well as the adequacy of the delivery system within the CBD (pipe network).

Water Service

Public water service is administered by the Town Water Department, Department of Public Works (contact: David Lavalee @ 508-949-3863). Town water resources are provided by wells. The CBD primary service in Main and Lake Streets is a 12-inch unlined cast iron pipe. Secondary street mains are 8 and 6-inch unlined cast iron. All water mains were installed prior to 1905. Service laterals to individual users are also iron pipes of similar age to the mains. Water mains running north from Main Street are two 6-inch services; one terminating at the end of Davis

Street and the second terminating at the end of Tracy Court. The town reports only occasional problems with the mains. However, there are more frequent problems with the service laterals. All installed new water pipe for laterals is plastic. Available flow test information includes; (1) 1980 hydrant test of the 12-inch main in Main Street @ Tracey Court yielding: 110 psi static / 93 psi residual / 1302 gpm flow rate; (2) 1990 hydrant test of the 6-inch main in Tracy Court @ Main Street yielding: 95 psi static / 30 psi residual / 630 gpm flow rate; (3) 1999 hydrant test of the 6-inch main in Tracy Court @ Main Street yielding: 100 psi static / 58 psi residual / 1130 gpm flow rate.

Sanitary Sewer

The town Waste Water Treatment Plant (WWTP), located south of the CBD on the east side of the French River, is currently running @ less than 50% capacity (source: Town Sanitarian); capacity is rated @ 6 million gpd. While some of the sewer pipe in the CBD is aged, infiltration problems are not considered significant at this time. All pipe replacements are plastic. The main sewer interceptor runs through the CBD flowing east to west parallel to Main Street, located approximately midway between the French River and Main Street.

Storm Drainage

Stormwater runoff is collected in a conventional closed storm drainage system consisting of catch basins, manholes and pipe. There are various minor outfalls to the French River (see Figure 8). The system is aged and there is no evidence of water quality control devices (oil / sediment separators) on-line. Portions of the residential areas to the south of the CBD as well as areas of the central CBD area are collected in a concrete storm culvert (average 4 x 4 ft interior and circa 1914) installed primarily to carry Day Brook where the brook undergrounds south of Park Street. Over time, some buildings have been erected over the culvert as it makes its way to outfall in the French River. Along the way, many catch basins dump directly into the top of the culvert; in other instances, adjacent catch basins are piped to penetrate points on the culvert sidewalls where they discharge to the culvert. As with the other storm drainage networks, other than catch basin sumps, there are no water quality controls before the culvert discharges to the French River.

Infrastructure Conclusions

- Existing utilities (telecommunications, electric and natural gas) have sufficient capacity to service new development within the CBD. Any new service requirements must be cognizant of time requirements to obtain new service.
- The town water supply is currently adequate to supply existing and new business needs. However, as residential expansion occurs in other sections of Webster (southeastern and southwestern quadrants) there will be increasing demand on the existing town wells. Water pressure tests indicate reasonably good pressures within the CBD for fireflow at street level and domestic service in mid-rise buildings (3-4 story). However, new development within the CBD may require extension of 12-inch service and expansion via new 8-inch mains based on flow needs.
- With the WWTP operating at under 50% capacity (source: Town Sanitarian), there appears to be plenty of capacity to meet future demand. However, anticipated new development in other parts of town (especially residential and industry discharging process water) must be factored into proposed development within the CBD.
- Stormwater management is accomplished through the use of culverts and conventional closed-system storm drainage pipe networks ultimately discharging to the French River. At this time there are no apparent water quality controls in place. Any new storm drainage designs must follow current MEPA requirements for control of runoff and discharge to local watercourses. Future development must take into consideration the location of the Day Brook culvert.

Environmental Boundaries and Restrictions

Hydrology

In regard to hydrology, the French River and its hydrological as well as its environmental dynamic, exerts a major influence on the CBD. As the northerly boundary of the CBD, the river defines infrastructure expansion in terms of flood hazard and environmental statutes (Rivers Protection Act). As a watercourse and recipient of stormwater runoff, the French River is subject to environmental regulations governing the control of stormwater management. Specific to the French River are the various existing stormwater outfalls including the Day Brook culvert.

Flood Boundary

The 100-year storm flood limit (Base Storm Event) does affect portions of the lands along the French River within the CBD where the greatest opportunity exists for new development. These areas are known as Flood Plains (see Figure 8). It is possible, within selected criteria, to construct within the flood plain. Among other things, the structure must be flood-proofed and not diminish flood storage capacities (fill). The Floodway is a physical boundary that describes a channel having a cross-sectional area sufficient to contain the 100-year flood flow. This boundary cannot be encroached upon by any development. Because the French River runs within a well-defined high embankment as it courses through the CBD, the Floodway is also a well-defined boundary that is more or less aligned with the top of the embankment. As such, much of the land abutting the river within the CBD may be considered as having development potential.

Rivers Protection Act:

In 1996 the Massachusetts Legislature passed the Massachusetts Rivers Protection Act (MRPA). As a law, this act amends the Wetland Protection Act, MGL Chapter 131 Section 40. Its objective is to protect rivers in the Commonwealth by regulating activities within a newly described area along the watercourse now known as the Riverfront Area. The MRPA is enforced under the provisions and regulations as set forth by the Massachusetts Department of Environmental Protection (MEPA) under their wetland regulations 310 CMR 10.00.

- Purpose: (1) protection of private or public water supply; (2) protection of groundwater; (3) flood control; (4) prevention of storm damage; (5) prevention of pollution; (6) protection of land containing shellfish; (7) protection of wildlife habitat; (8) protection of fisheries. (Essentially identical with Wetland Protection Act purposes).
- Riverfront Area: With the exception of named municipalities meeting the criteria of having populations of 90,000 or more, or population densities of at least 9,000 people per square mile (where the boundary is 25 feet), the Riverfront Area is defined as a swath of land running parallel to the watercourse with boundary 200 feet from the mean annual high water line. There is no buffer zone associated with the Riverfront Area.
- Mitigating Circumstances: Where there is evidence of “pre-development” (prior to August 7, 1996) within the Riverfront Area, the authority (MEPA) may allow work to “redevelop” the existing condition within the framework of the stated MRPA objectives (the 8 purposes). Translated, this means that within the designated 200 foot Riverfront Area, “redevelopment” can occur within 25 feet of the watercourse where existing development may be within 25 feet or closer. In all other areas of a generally disturbed Riverfront Area (such as the Webster CBD area), work can be done within 100 feet of the watercourse. *
- Redevelopment (defined): means replacement, rehabilitation or expansion of existing structures, improvement of existing roads, or reuse of degraded or previously developed areas; i.e., improvement of the existing condition.

- **Alternatives:** In addition to mitigating circumstances, the authority will consider certain practicalities after the applicant has exhausted alternatives to locating a project inside the designated Riverfront Area. In the Webster CBD, for example, if it is determined that the “highest and best” land use means that new development must encroach on Riverfront Area, the authority will consider the following issues related to locating outside the Riverfront Area: (1) costs and whether such costs are reasonable or prohibitive to the owner; (2) existing technology and; (3) logistics in light of the overall project purposes.

* Mitigating circumstances, with respect to Webster, was cited by Ms. Marielle Stone (MEPA Riverfront Protection Act coordinator / liaison to Central Mass. Municipalities: (508) 767-2733 / Marielle.Stone@state.ma.us). More specifically, Ms. Stone cited 310 CMR 10.58 (5) as the applicable section of the MRPA for Webster (refer to abstract in Appendix __).

Chapter Summary: Site Constraints and Opportunities

As a pre-requisite to the exploration of land use concepts, an analysis of site constraints and opportunities provides important planning guidelines (see Figure 8). Guidelines affecting future development decisions include the physiographic characteristics of the study area (topography, substrate) and sensitive environmental impacts (the French River, wetlands, flood boundaries, flood plain and riverfront area) as well as infrastructure elements and the built environment (buildings, streetscape, aesthetics).

Physiographic

Constraints

- Incremental grade changes in the mid-block parking area (Main, Mechanic, Church and Negus Streets) constitutes an additional development expense if these areas are reconfigured to a single large parking area (removal of low retaining walls and regrading).
- Elevation differentials of from 5 feet to 15+ feet between Main Street and rear parking areas to the north pose some design problems to developing pedestrian (ADA compliant) and vehicular through connections (Lot F-10).
- Elevation differential between High Street and the railroad corridor (25' feet) combined with the presence of ledge are significant cost impacts to any development in this area (Lots T-3, 4, 5, 6 and 7).

Opportunities

- The gradient changes within the CBD and south adjacent residential areas occur in plateaus creating visual interest and physical separation to the various land-uses. This works in favor of new development by reducing the impact of multi-story construction; especially along the river corridor.
- Vertical differentials create view sheds, which can be enhanced architecturally and with landscape planting.

Environmental

Constraints

- The 100-year flood plain tends to limit new development choices and will add expense to the construction (flood proofing) as well as increased insurance rates.

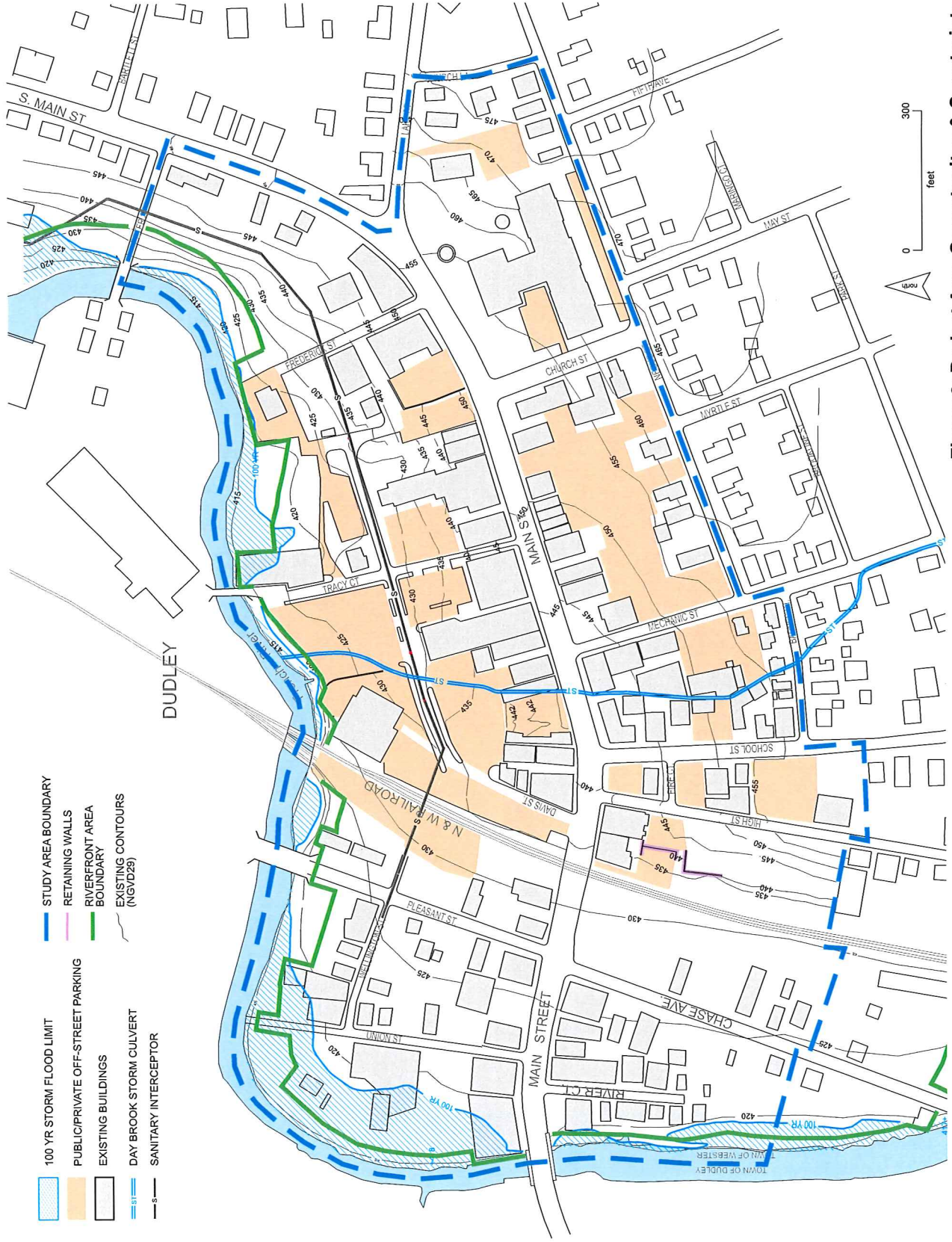


Figure 8: Project Area Opportunities & Constraints

- The Riverfront Area, as defined by the Rivers Protection Act, encumbers various land areas fronting the French River. These are areas that will not be available to developers.
- Any new development proposed on riverfront corridor lands north of Main Street must consider the impacts due to protracted approvals subject to the environmental permitting process and special construction costs related to the conditions of approval.

Opportunities

- The French River and its related environmental boundaries represent a unique feature in the urban context. While the river corridor presents some real challenges for reuse options and new development, the special benefits accrued vis-a-vis the river environment are an asset.

Infrastructure

Constraints

- There are many streets / driveways that outlet onto Main Street and many pedestrian crossings (safety and congestion issues)
- Multiple access / egress points to various parking lots throughout CBD (confusion)
- The railroad tracks are a physical line of demarcation dividing the west and east CBD
- Main Street is a high volume traffic conduit having poor directional queues for potential CBD visitors.
- Storm culvert (location and capacity)
- Sanitary sewer interceptor (location)
- Surface parking need vs. development value of limited urban real estate.

Opportunities

- Better coordination of drive access / egress and pedestrian cross-street movement will improve issues of safety, confusion and congestion within the CBD. The introduction of special pavements in major pedestrian crosswalks could serve to heighten identity for pedestrians and drivers.
- The railroad crossing is a significant visual interruption and traffic-calming event that could also be an excellent location to develop a downtown "Gateway" identification (just to the west of the crossing).
- The high traffic volumes can be made a benefit by introducing a combination of better-coordinated drives and pedestrian crossings with effective signage and modified vehicular controls (signalization and lane definition).
- Fortunately, the Day Brook Storm Culvert and sanitary interceptor alignments do not pose serious constraints to development and, in fact, actually can be an asset based on their convenient location in that they provide convenient opportunities for new development lateral connections.
- Short-term use of available lands for surface parking can alleviate current and near-term parking deficits. As "developed" parcels, the surface parking can more easily be turned around for new development.

Land Use and Built Environment

Constraints

There are many small parcels and numerous owners, making parcel consolidation for larger developments difficult in some areas.

Opportunities

- The existing historic downtown building stock, particularly along Main Street, is very attractive.
- The river edge provides the opportunity for development of open space and can serve as an amenity to other downtown development.
- There are some large parcels and/or adjacent parcels in single ownership, creating opportunities for larger developments.
- There appears to be a market for downtown housing, which would support the existing residential development as well as downtown retail establishments.

III. Concepts

Land Use and Development

Development Principles

The Land use and Development Concepts were developed around the following overriding principles:

- **For this phase of the project, development concepts focused on the land between Main Street and the River because the new access road and parking layouts on the north side of Main Street will result in reparcelization of that underutilized area.** Phase III for the project will look at development opportunities throughout downtown; this phase concentrates on shorter term opportunities that will result from the proposed roadway and parking plans. When complete, the new parking and bypass road will provide access to underutilized land along the French River and create open space and development opportunities between the new road and the river. These new parcels will be relatively flat and will have good pedestrian and vehicular access to Main Street.
- **New development should support existing retail along Main Street rather than compete with it.** Because of the large number of retail and office vacancies along Main Street (including vacant storefronts as well as many upper level spaces), it was felt that future efforts to revitalize the commercial portions of downtown will be best served by concentrating any new commercial activity on Main Street and infilling residential uses in the blocks close to Main Street. For this reason, development options concentrate on residential uses; retail development was not considered as a potential use for new development in the area north of Main Street. Phase III of this project will include a market study with recommendations for new uses for vacant spaces and potentially rehabilitating historic buildings.
- **Increasing open space and connections to the river will create a strong amenity for residents and potential developers.** Downtown Webster has very little open space and new access to riverfront property is a major opportunity for the town. In cooperation with a creative developer, the town can leverage this location to create an amenity that can bring new development and open space to downtown Webster. As discussed earlier in Section II, riverfront setbacks of 25 feet are required for new development in urban areas. Twenty-five feet would provide adequate room for walkways, but in many locations additional open space could augment this band to create a more significant open space system and development opportunities. Many of the underutilized riverfront properties are large enough to accommodate open space beyond the required 25-foot band and new housing.
- **Ideally a combination of open space and new housing would be created at various points along the river.** Figure 9 illustrates a 25' and 50' greenway along the river, a number of larger underutilized parcels along the river and potential access points from existing and proposed roads. In an effort to create a significant riverfront open space and bring new housing development to downtown Webster, opportunities were explored on both sides of the river, including land in Dudley. A riverfront open space system should be, wherever possible, a two-sided "park". Developing open space on both sides will leverage small amounts of open space and water sheet and provide complementary views of new parks and housing development.

Combining new open space with housing could create opportunities in the short term to fund riverfront restoration with new development and in the long term create a constituency that lives along and watches over riverfront parks. Multiple river crossings and access points will create many opportunities to link new development and open space to Main Street. Streetscape and landscape projects will help integrate the river and adjacent development along it to the Main Street commercial area. A project of this magnitude

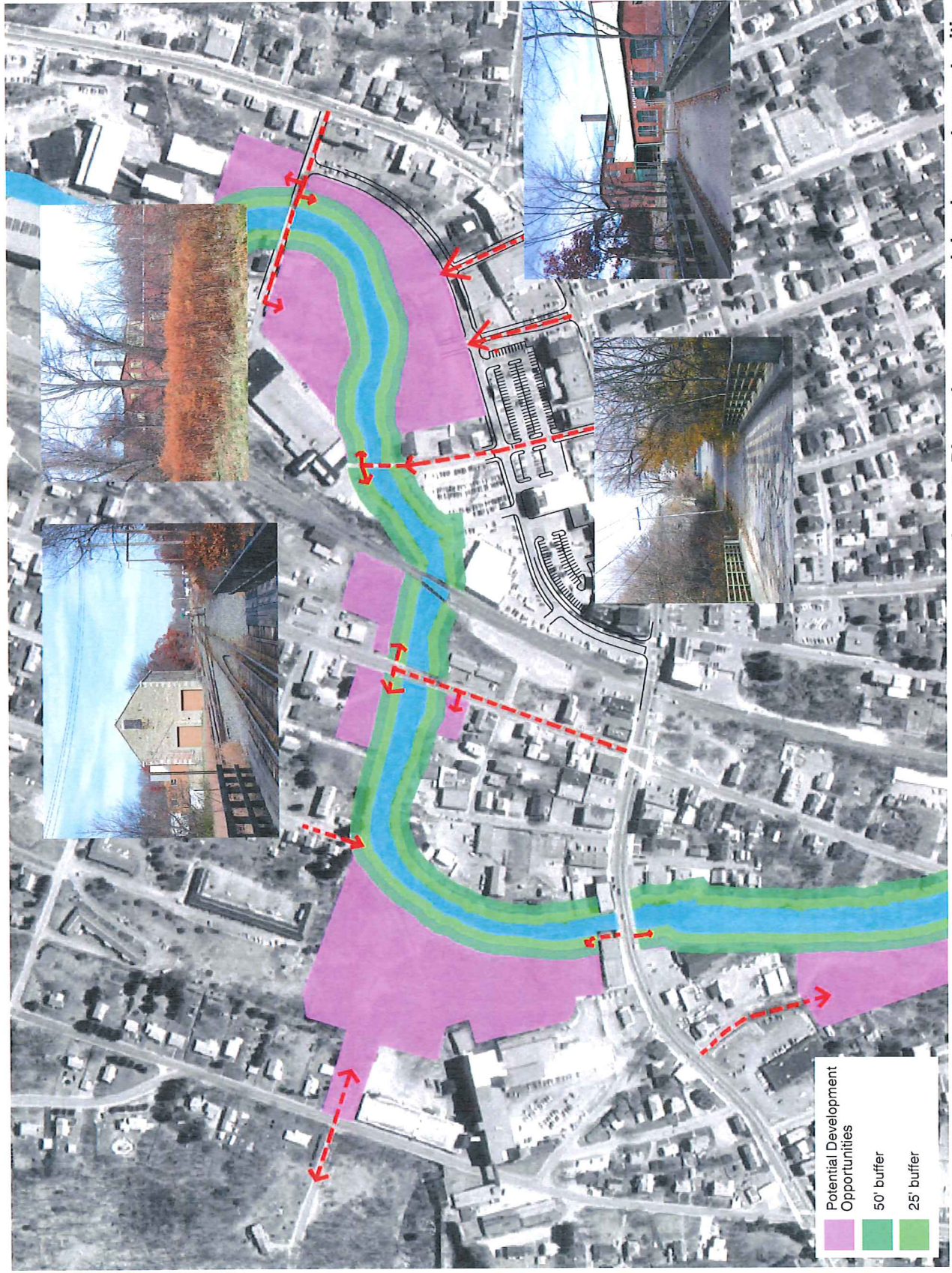


Figure 9: River edge access and development opportunities

will benefit both communities and should be coordinated from the outset. Phase III of this project will begin this coordination and could potentially involve a two-town Urban Renewal Plan. Such a plan will assist Webster and Dudley in encouraging the redevelopment of these areas and allow for sound planning and environmental management for the river itself.

Development Concept

Preliminary open space and housing concepts for the area along the new road and immediately across the river in Dudley are shown in Figures 10 through 12. These diagrams are not intended to show actual plans but rather to explore the scale of housing and open space that could be accommodated along this stretch of road and riverfront. These concepts show three to four story residential walkup buildings or townhouses. Parking would be accommodated behind buildings, on-street, and in new public parking lots developed on the southern side of the road.

The basic premise of all the concepts is to enliven this area with new residential development and new parkland along the river. Because of traditional development patterns in downtown Webster, most properties turn their backs to the river; new development should address the river more directly. Residential buildings are arranged take advantage of the open space without limiting public access to the riverfront. Streets connecting this area to Main Street provide direct public access to the riverfront. Wherever possible new residential development faces complementary residential uses to create streets that have a “neighborhood feel.” Housing in this area should also take advantage of new parking lots and shared parking opportunities that exist with office uses that have opposite peak periods.

The three concepts illustrate what might be possible in this area along the new bypass road and the river, with the number of residential units ranging from approximately 35 to 55 (the number of housing units could be increased or decreased). All the schemes include a combination of housing and open space on both sides of this segment of riverfront. Developing open space and housing on both sides of the river will provide a more consistent and attractive environment for park users and residents living in new housing.

Parkland is shown expanded beyond the 25 foot buffer required by the Rivers Protection Act to include wider sections that can be used for multiple purposes. Sections of riverfront should be connected both along and across the north and south shores to create continuous park land with multiple access points. In some locations existing conditions may provide opportunities for historic buildings to be rehabilitated on sites closer than 25 feet. In these cases pedestrian walkways around buildings, on the water or land side, should be considered.

Infrastructure Concepts

Concepts for infrastructure improvements have been developed to solve existing traffic and parking concerns as well as to support concepts for future development described above.

Circulation and Parking

As a follow-up to the Cullinan Study, the work scope for this document includes parking lot construction projects as part of the PWED grant requirement. However, as a result of this planning process, the Cullinan targeted sites have been revised. This change in objectives is related to issues of parking lot proximity to destination points in the CBD, the proposed extension of the Access Drive currently connecting Davis Street and Duggan Drive and recent developments affecting land use in the CBD; more specifically, the proposed demolition of the theater structure and transfer of lands in Block G from private to town ownership (see Figure 13).

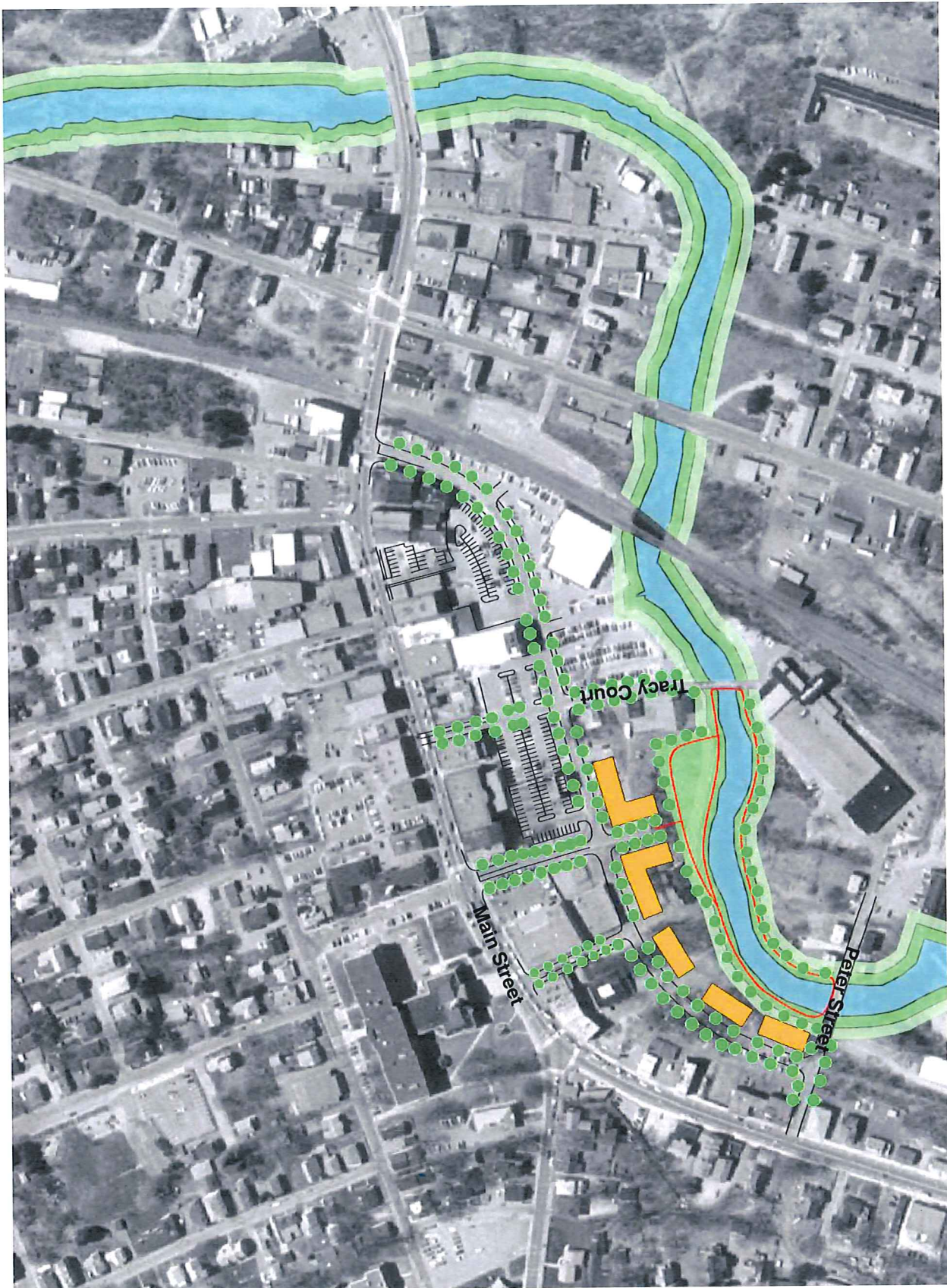


Figure 10: Development concept - housing only on south side of river



Figure 11: Development concept - housing on south side of river and expanded open space on north side

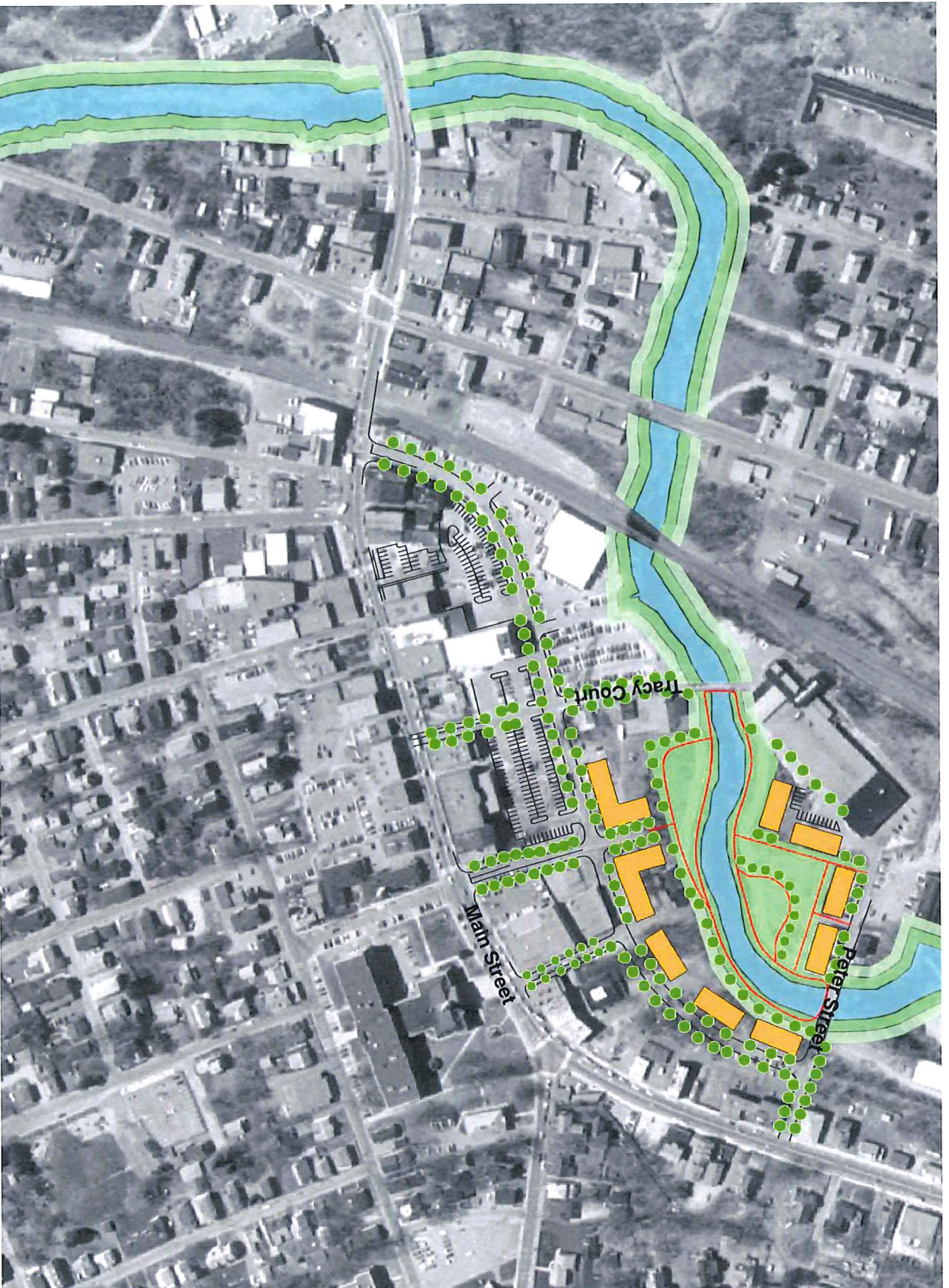


Figure 12: Development concept - housing and expanded open space on both sides of river

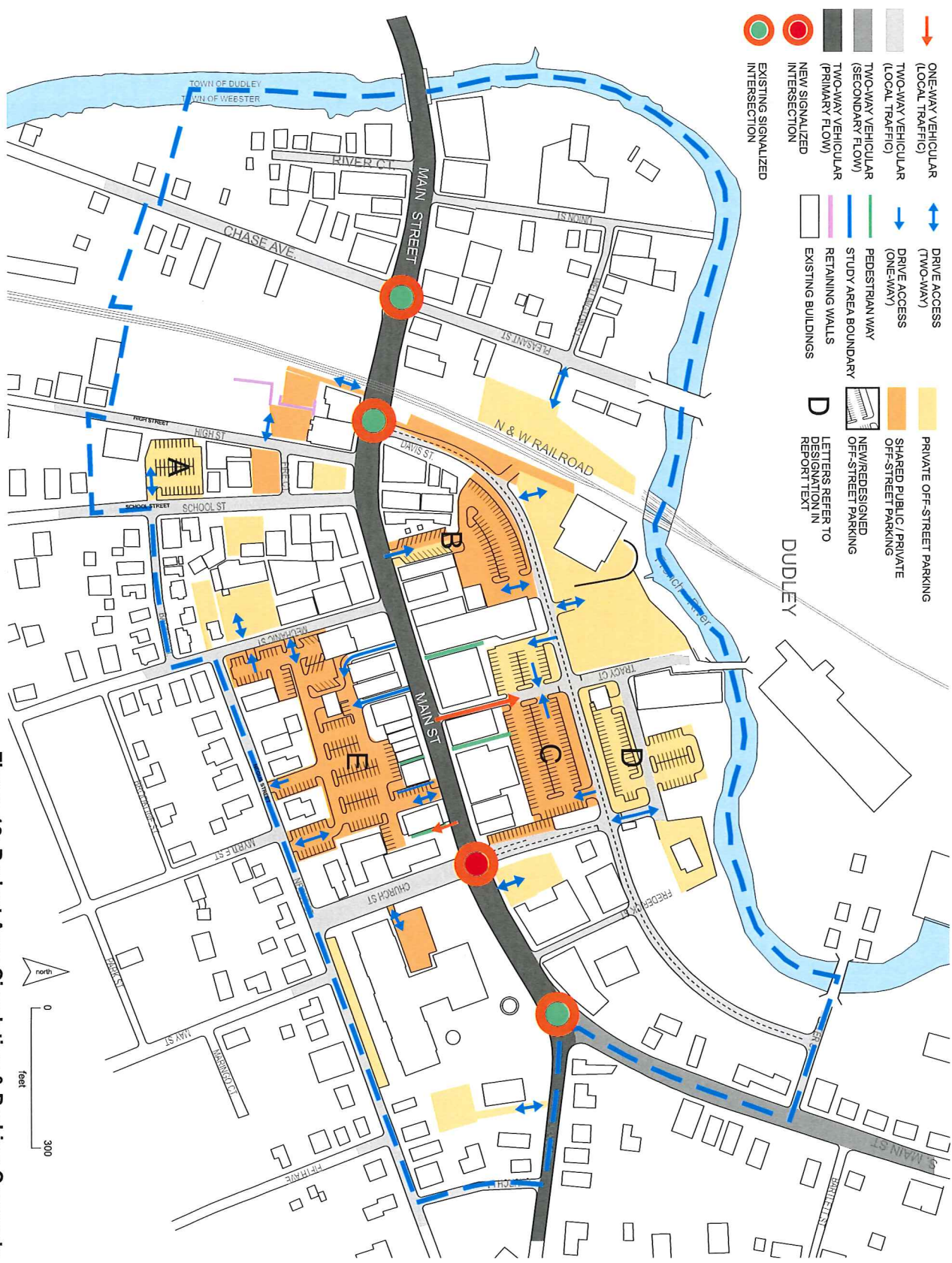


Figure 13: Project Area Circulation & Parking Concepts

Vehicular Circulation

Improvements

The capacity analyses indicate that both signalized intersections (Pleasant / Chase @ Main and Lake @ Main) presently operate at Level of Service (LOS) C or better at all times except during the mid-afternoon period of school dismissal when the intersection of Main / Lake and South Main Streets operates at LOS D. More significantly, the visual observations of travel patterns through the Study Area provide an understanding of driver behavior and travel needs along Main Street. This study identified several factors that slow and back traffic along Main Street in the Downtown:

- Traffic queuing at the signalized intersections
- Drivers stopping for pedestrians crossing at one of the mid-block locations
- Left turning vehicles blocking through traffic on Main Street
- Drivers stopping to let side street traffic enter Main Street
- Drivers stopping to let vehicles park or leave on-street parking spaces

Improvements to address the factors listed above and to allow traffic to flow more easily through Downtown Webster are identified herein, but need to be weighed against the impact these improvements would have on pedestrian and commercial activity through the Study Area. These improvements include:

- Remove parking from Main Street in front of Town Hall and relocate the mailbox away from the Town Hall block.
- Revise the traffic signal timings to provide preference to the Main Street approaches at both signalized intersections. This improvement is easily implemented and would improve traffic operations at the Lake Street intersection while reducing the eastbound queue during the mid-afternoon and late-afternoon peak periods. The impact of this improvement would require eliminating the seven parking spaces in front of Town Hall and relocating the mailbox to another area.
- Reduce the number of mid-block pedestrian crossings to reduce the number of stops made by drivers as they travel Main Street. This improvement would also be easily implemented. Its impact would be the reduction of options available to pedestrians to cross Main Street, making them walk further to a designated crossing area. The farther walk is offset by increased safety.
- Shift the yellow centerline to provide a 28-foot width in the westbound direction and 22 feet in the eastbound direction. This will allow through traffic to continue past vehicles turning left from Main Street onto Church Street, Mechanic Street, School Street and High Street while maintaining all on-street parking. Being able to by-pass vehicles turning left from Eastbound Main Street onto Tracy Court or Frederick Street as visual observations indicate that the number of vehicles making these turns is less than the number of westbound left turns, making by-pass in the eastbound direction less of a priority than in the westbound direction. This improvement would be accomplished by re-striping the yellow centerline. The impact would be positive, as it would allow through traffic to continue in the westbound direction around cars that are turning onto one of the several side streets south of Main Street. There would be no negative impacts as pedestrian movement and on-street parking would not be altered with this improvement.

- Install a traffic signal at the intersection of Main / Church Streets and Duggan Drive to provide a location where Access Drive traffic can easily enter the flow of traffic on Main Street. This improvement would require removal of some on-street parking to provide left turn lanes as well as through lanes in each direction on Main Street. Coordination with the traffic signal at the Lake Street intersection would be necessary to avoid backing between the two intersections.
- Alternatively (to the Church Street traffic signal), Davis Street could be included into the Pleasant Street/Chase Avenue traffic signal to provide access from the area between Main Street and the French River. Access to the area south of Main Street could be improved by installing a new traffic signal at the Mechanic Street intersection. On street parking in the vicinity of Davis Street at the Mechanic Street intersection would be impacted by the need to provide left turn lanes on Main Street. Coordination would also be required to assure that the three signalized intersections operated in concert.
- Add a fourth leg to the Main / South Main / Lake Street intersection to provide access to the area between Main Street and the French River and install a new traffic signal at the Mechanic Street intersection. Adding the fourth leg would require demolition of existing buildings opposite Lake Street.

Many of these improvements should be considered in combination with others to improve traffic flows through the Downtown while maintaining the pedestrian friendly environment that presently exists. Some of the improvements (i.e. removal of parking in front of Town Hall/relocation of the mailbox, and re-striping the yellow centerline) lend themselves to trial applications to determine if the benefits outweigh the impacts. Other improvements should be considered carefully before implementation to be sure that the impact would be an acceptable tradeoff for the benefits that would be achieved.

Parking

The Cullinan Study (1999) has determined a total CBD parking need of 300 additional spaces based on an interpretation of their field data and The Commerce Group stated future parking needs related to expanded employment. Because this study includes a land use / building reuse planning component, it is necessary to reassess parking need based on the additional parking requirements related to proposed future reuse objectives. These objectives and their supporting arguments are described above under Land Use Concepts. Criteria used in the determination of the parking requirement related to the proposed land use scenarios are defined as study parameters.

Study Parameters

- The Town Hall parking lot should have public (visitor) space available. Given this premise, this lot (unlike the Cullinan Study) is included in the parking space tabulation.
- Existing business / institutional uses having well-defined, discrete private parking areas are considered an existing condition to remain; e.g., church and bank lots, business / residential use, post office and library. (As such, these parking areas are not included in the parking counts in the following table tabulations.)
- Existing parking areas that are adjacent and a mix of public / private use are considered opportunities to create greater efficiency and safety through modification of the layout..
- Shared parking (public/private) solutions are reasonable alternatives.
- Public parking must be ADA compliant.
- Property acquisition is a necessary consideration to effect significant infrastructure improvements.

- Primary existing underground infrastructure (sanitary interceptor and storm sewer trunk line) must remain accessible.
- The railroad corridor intersection with Main Street is considered the only point of crossing.
- With the exception of The Commerce Group (and one or two others), all 1st floor spaces are business uses. All 2nd floor and above spaces are potential storage and / or residential use.
- Residential use is defined as apartment space with average size of 1000 square feet per unit.
- The Commerce Group currently uses 250 parking spaces. The potential for growth will add another 200 employees. Factoring ride sharing, a total parking space requirement total of 400 is projected.
- The Commerce Group has indicated that it may (at some future date) divest itself of the warehouse located along the railroad corridor. The potential reuse, for study purposes, is business (professional office or other service industry).
- The riverfront potential reuse is residential.
- A parking garage is considered a viable addition to the CBD. This scenario is consistent with proposals entertained in the Town Master Plan (1989).

Block Analysis

The following is a parking space need determination by Block as delineated on Assessor's Map No. 1 (see Figure5) The business / retail totals are estimates of business use (essentially all ground floor space except for Commerce Group) and residential use of all 2nd floor and above space. Parking space requirements are based on the existing Town Zoning Regulations for Off-Street Parking: Business @ 1spc/500 gross square feet (The Commerce Group is @ 1spc/300 g.s.f.; and Residential @ 1spc/dwelling unit (D.U.).

**Table 2: Parking Space Needs Based on Proposed Building Reuse
In Accordance with Existing Zoning Regulations**

Assessors Map Location	Business Retail (S.F.)	Residential (S.F.)	Parking Bus./Ret.	Parking Residential	TOTAL SPACES
BLOCK F	*88,000		176	0	176
		30,000	0	30	30
The Commerce Group	120,000		**400	0	400
Subtotal	208,000	30,000	576	30	606
BLOCK G	79,000		158	0	158
		24,000	0	24	24
Subtotal	79,000	24,000	158	24	182
BLOCK H	18,800		38	0	38
		7,800	0	8	8
Subtotal	18,800	7,800	38	8	46
BLOCK T	18,700		37	0	37
		7,700	0	8	8
Subtotal	18,700	7,700	37	8	45
BLOCK R	24,000		48	0	48
		8,000	0	8	8
Subtotal	24,000	8,000	48	8	56
BLOCK M	62,500		125	0	125
		***22,500	0	23	23
Subtotal	62,500	22,500	125	23	148
BLOCK L	(Town Hall)		30	0	30
Grand Total	411,000	100,000	1012	101	1113

* Includes The Commerce Group Warehouse as a business reuse (30 spaces)

** Factors the additional spaces needed by The Commerce Group

*** Includes existing multi-level residential building in Block M, Lots #19 and #20.

Conclusions

- The Parking Space Needs tabulation (Table 2) must be placed in context with the findings of the Cullinan Study with respect to that study's existing and forecasted parking needs. The estimated grand total requirement for 1012 business related parking spaces (based on zoning minimum parking requirements), assumes a portion of all 2nd floor spaces will become business uses. This seems to compare favorably with the Cullinan Parking Study data forecasting a total required parking count of 1191 spaces (see Table 3 below).
- If we factor the (Cullinan Report) estimated 237 available spaces in the underutilized private parking lots, making these spaces available to the public (shared parking concept) would significantly mitigate the existing and short-term future parking needs.

Table 3: Comparative Parking Needs Analysis

PARKING CATEGORY	CULLINAN STUDY PARKING DATA	WEBSTER DOWNTOWN IMPROVEMENT FORECASTED PARKING NEEDS
Existing On-Street	182	182
Existing Off-Street	679	679
Ex. Town Hall Lot	30	30
Sub Total	891	891
Future Need Business Expansion	100	100
Future Need (Commerce Group)	200	200
Future Need Based On Proposed Building Reuse	0	*131
Total Required	1191	1322
Projected Deficit	300	**431

* The Commerce Group warehouse as business (30 parking spaces) + 2nd floor and above building space reuse as residential apartment units (284 parking spaces).

** *Note: If we eliminate the residential reuse requirement of 284 spaces, then 614 spaces – 284 spaces = 330 space projected deficit which is generally consistent with the Cullinan projected deficit of 300 spaces.*

For purposes of this study, and in lieu of a current marketing study, we are forecasting a CBD upper level building space reuse potential for residential apartments. While there are now some business uses above the ground floor level, they are few. Given the inherent difficulties of maintaining upper level successful business ventures (The Commerce Group is an exception) in this type urban context, it is reasonable to suggest a residential use as one that has historical precedence and one that represents a positive goal for the town. More urban residents will work to enliven the CBD and help to support the economic growth of small business. Considerations in context with the parking space needs assessment issues suggest that:

- Clearly, additional parking spaces are needed to accommodate both the expansion needs of The Commerce Group and the forecasted needs of small business. This study estimates an additional 431+ spaces if we factor in added CBD residential apartment space in existing buildings.

- Available public spaces, based on utilization factors, are not being used because they are inconvenient and/or considered unsafe and undesirable. In some instances, these spaces can be improved; in others, the spaces will never be used for access to the CBD.
- The generation of additional ground surface public parking spaces can be effected by; (1) improving the efficiency of existing lots by reconfiguration; (2) constructing new ground surface lots; (3) creating a shared-use (public / private) parking arrangement in an effort to realize 100% utilization of all parking facilities, and; (4) construction of a multi-level public parking garage that would also accommodate space for private utilization.
- The findings of this study reinforce those of the Cullinan Study; i.e., that there is a short-term need for an additional 300+ convenient parking spaces within the CBD.

The existing 68 essentially unused parking spaces located in the Commerce Group lot west of the railroad corridor must be replaced within the heart of the CBD. While they have been factored into the total parking tabulations, practically speaking, they are considered an irretrievable resource as a benefit for CBD visitors and should be considered a part of the overall CBD parking deficit.

Planned Parking Lot Expansion and Reconstruction

The following parking improvements are planned for construction during Phase II (letter designations refer to Figure 13).

A. The Senior Center Lot S-6 (Net Gain: +16 spaces)

- This lot is striped for one-way travel (parking stall lines are angled). Angled parking, while designed to enforce one-way travel within a parking lot, does not generate as many parking spaces as conventional (90-degree) stall layouts (a matter of geometry). Our recommendation is that the lot be reconfigured to allow a conventional stall layout thereby increasing the lot capacity by approximately 30%. This will require the following modifications .
- Additional pavement be added to create the required bay width (60 feet)
- Erect a fence along the existing retaining wall fronting School Street (increases perception of safe enclosure).
- Re-stripe the lot for 90-degree parking stalls. This will make the lot function for a 2-way movement.

B. Main Street Lot F-10 / Rear Lot Lots F-4, 5, and 6 (Net Gain: +37 spaces)

The existing Main Street parking lot has access / egress exclusively from Main Street. The lot is unpaved and not striped. Parking patterns are varied as the need demands. The Bateman Electric supply business (Lot 9) relies on this lot for customer parking and truck deliveries and the Joslin House utilizes this space for tenant parking. Not all of Lot F-10 is accessible due to a vertical grade differential of approximately 5 feet at the rear of the lot. It is recommended that the parking lot be re-structured, making it an access-only lot from Main Street with egress to the rear. As a part of this modification, the existing parking area (Lots F-4, 5, 6) would also be restructured. This will involve coordination of truck movements in that area to insure that all deliveries can continue, yet structured in a manner that creates more parking spaces. Benefits of this modifications include:

- Reduction of traffic conflict on Main Street.

- Re-direction of parking lot bound vehicles to the rear where more parking is available.
- Increase in total parking count between the two parking areas.
- Encourage all service movements from the Access Drive and shipping / receiving maneuvers to the rear of the buildings.
- Promotes safety for vehicles and pedestrians.

C. Old Theater Area (Net Gain: +52 spaces)

New space for parking will be generated with the eventual demolition of the old theater (Lot G-7.1). The new space will be integrated with the existing lot on G-4 & G-7. The plan is to create a single lot that runs west to east from Tracy Court to the existing retaining wall that extends along the west side of Duggan Drive. As a part of this development, it is recommended that consideration be given the modification of the existing parking in Lot G-17 & G-17.1 which services The Commerce Group (see Figure 9). In addition to the obvious benefits of added parking, other positive elements include:

- Development of a consistent buffered edge separating the parking areas from the Access Drive. This creates a safer environment by better controlling vehicular movements to reduce vehicular conflicts with Access Drive traffic.
- Creates a much more aesthetic environment.

Recommended Potential Future Parking Projects

The following parking improvements are recommended, but are not planned for construction during Phase II.

D. Block G – Lot 6 and 6.1 (Net Gain: +50 spaces)

The existing lot of 25 spaces is expanded (as suggested in the Cullinan Study) to accommodate a total of 75 vehicles. Regrading of the new lot and the addition of walkways will make this lot viable for CBD employees, thereby freeing spaces they currently use close in lots closer to Main Street.

E. Shared-Parking – Block M Public / Private Lots (Net Gain: +83 spaces)

The existing mid-block parking bounded by Main, Mechanic, Church and Negus Streets is a patchwork of public and private spaces. This parking environment evolved over time to meet individual needs. The resulting arrangement is one that is confusing and unsightly, partitioned by fences, concrete planters and low retaining walls. For the familiar user it appears to work, if not well, at least adequately. For the occasional visitor it is a disconcerting experience. As a Webster downtown image, it reflects poorly on the overall CBD. Field observations suggest that it would be feasible (physically) to link and reconfigure all of the disparate parking areas to create a single large parking lot. This would require removal of the various barriers and some re-grading. This is clearly not a simple undertaking as there are many related pros and cons. Nevertheless, the inherent merit of pursuing urban solutions that offer even incremental improvements is good planning; as such, following is offered for consideration:

- The combined parking areas would not result in a significant increase in parking spaces. However, it would effect a parking area that is safer (vehicular and pedestrian movements), more easily negotiated and one that interconnects with 3 of the 4 town streets.

- The interconnection with town streets enables the review of access / egress movements. In this regard, consideration can be given the benefits of one-way vs. two-way drives with respect to reducing the amount of mid-block traffic entering Main Street and encouraging more use of the side streets.
- A shared parking arrangement between public / private parking spaces would work toward realizing 100% utilization of all available parking. In effect, this would provide more parking opportunities than are now available.
- The reconfiguration could provide more opportunity for the introduction of shade trees and perhaps some shrub planting.
- Combining public and private lots will require right-to-access and drain easements.
- Private parking lot owners must be assured that they will always have available parking for their needs. Conventional signing will identify parking spaces, however, enforcement is key.
- The town may consider a quid-pro-quo situation where private owners are offered free services such as snow plowing and parking lot maintenance in turn for public use of some space in their lots.

F. Parking Garage (Net Gain: +161 spaces in 3-level garage)

The concept of a downtown parking garage in Webster has been considered for some time. It formally appears in the 1989 Town Master Plan of Development and most recently, in the Cullinan Study, 1999. Previous suggestions for a location have been general. This study recommends a specific location; the site of the proposed new and expanded parking area scheduled to occur in and about the old theater (see Figure 9). This seems a logical site given its central location within the CBD, relationship to the Access Drive and elevation differential between the back parking lot and Main Street (15' ∇ feet). Particularly because of the current state economic conditions and also, some general concerns about the practical and legal aspects of operating a garage, this concept remains a future vision. However, because parking garages in urban settings are fundamental solutions to the alternative of using valuable downtown real estate for surface parking, it is important that a garage be a part of this planning effort. There are pros and cons associated with parking garages and this site specifically, some of which are itemized herein:

- Vertical parking provides an efficiency that is directly proportional to the number of parking levels; e.g., a 3-level garage accommodates 3 x the number of cars as a surface lot of the same footprint. Parking garage(s) can generate the parking space needed to support urban residential as well as local business growth.
- The garage is an easily identified destination, protects vehicles and pedestrians from inclement weather and can provide a heightened sense of security when properly illuminated and policed.
- The Webster proposal places the garage to vertical advantage making a 3-level or 4-level garage appear to be a 2-level or 3-level garage from Main Street vantage points.
- Garage placement at rear of multilevel businesses (as in Webster) presents an opportunity to have the garage access the buildings at basement and other levels.
- Garage construction is expensive with costs that can often vary from \$8000 - \$12000 per vehicle depending on construction type, location and other variables.

- Parking garage operation and maintenance planning is critical to the success of the venture. This is especially the case when garages are to remain wholly or in part within the public domain.
- Parking garages have been successfully funded using a combination private, local and state funding.

Table 4: Parking Tabulation Based on Proposed Lot Reconfigurations and New Construction

PARKING LOT ALTERNATIVES	NET SPACE GAIN	CUMULATIVE BALANCE
Total Parking Deficit *	-	-368
A. Senior Center Lot	+16	-352
B. Main Street Lot	+37	-315
C. Parking Expansion (Old Theater Area)	+52	-263
D. Parking Expansion (Block G- Lot 6)	+50	-213
E. Shared Public / Private Parking (Block M)	+83	-130
F. Parking Garage	+161	+31
Totals	+399	+31

* Total deficit is understood to mean 300 spaces (Cullinan / Maguire Studies) + 68 spaces (Commerce Group lot on west side of railroad) = 368 spaces needed to meet short-term parking needs.

Conclusions

- If retaining open space for future development and aesthetic purposes, while still meeting parking needs, is a major CBD goal for the Town of Webster, then serious consideration should be given to solutions that can accommodate parking different from surface parking lot construction; e.g., a parking garage.
- If the Commerce Group downtown expansion is not imminent or dependent on available parking space, then Parking Lot Alternatives A through D will provide for current parking needs.
- The Commerce Group has indicated a willingness to consider satellite lot parking with shuttle service. Clearly, this creates some inconvenience and collateral expense and may pose some security concerns. However, such a solution could meet Commerce Group expansion needs and, perhaps, be considered a short-term arrangement until a parking garage could be funded and constructed.

Future Parking Needs

The land use concepts described earlier in this chapter explore some alternative uses (new development) for lands within the study area that are either undeveloped or currently occupied and having reuse potential. All new development will have a requirement for parking. In some cases an existing building with reuse potential will already have parking sufficient to support the proposed reuse. In undeveloped areas, new development must consider parking requirements and accommodation within the targeted development area. Specific to the town of Webster are the following suggested new development opportunities and related parking needs (see Figure 14):

Figure 14: Project Area Development Potential

- New Development (Residential): In addition to upper level apartment dwelling in existing buildings, new residential located along the French River (see Figure 14) would require its own parking facilities. Depending on parking ratio requirements, parking could be surface-type, a combination of surface and ground level under the building or a multi-level parking area as part of the overall building. Raising living areas near or within the 100-year flood plain above a parking level would constitute flood proofing.
- Building Reuse Opportunity (CG Warehouse): As a relatively new structure and a warehouse configuration, this building has a certain degree of use flexibility. As a warehouse use there is currently ample parking. Should this use become more business oriented, there may be need to expand the parking needs.
- Senior Housing (High Street): Similar to suggested parking accommodations for proposed housing along the French River, a housing use on this site should incorporate parking within the building footprint. The site elevation differential (30' ft) lends itself to creating multi-level parking on the lower levels as a part of the architecture thereby leaving site space for recreational development related to the building use. Access to lower parking levels can occur from High Street.

Pedestrian Circulation

Pedestrian movements generally initiate from a parked vehicle and continue via walkways throughout the CBD. Dynamic and accessible CBD environments all share certain fundamental characteristics: well-identified parking areas, well-defined parking lot vehicular access/egress, a defined / safe walk system from the lots to business / retail destinations and ample parking facilities discretely located to service the various businesses within the CBD. The French River corridor in the CBD provides Webster with a unique opportunity to create local amenity and aesthetics as well as an urban passive recreation element. The pedestrian and vehicular circulation systems are necessarily interactive in the urban setting. However, the interaction should be carefully coordinated to reduce conflict. This study looks at Webster within the stated criteria and proposes alternatives to the existing condition.

Recommendations

Pedestrian circulation within a CBD is considered primarily functional and secondarily recreational. Most downtown pedestrians began their downtown visit as drivers. Assuming a well-designed parking lot, once out of the vehicle, the pedestrian should see exactly where to go to get to Main Street. Over time, frequent visitors will do this easily out of familiarity. Accessible, safe parking combined with well-marked, convenient pedestrian access to Main Street businesses, will decrease visitor reluctance to come downtown. In this regard, Webster should consider:

- Rear entrance access to some places of business. This is not always a popular concept due to issues of security and business interior layout. However, in selected businesses this can be effective.
- There should be at least one (1) mid-block walkway from rear parking areas to Main Street. It should be wide enough to easily accommodate two-way travel and be perceived as safe (minimum 10-12 ft). Generally, the wider the better to provide space for occasional seating and perhaps planting.
- The walkway should be easily identified with signage and/or architectural features at either end and should be well illuminated.
- Walkways present opportunities to inform the public using downtown directories and other relevant information.

- The French River is a part of the Southwest Subregion Inter-Community Trail Connection program. Webster's contribution to this program is the improvement of riverfront accessibility and provision of land set-aside (easements) for a future trail segment in the CBD. CBD parking north of Main Street should have public access to the riverfront.

Utilities / Water / Sanitary Sewer / Stormwater Management

Utilities

Electric, telecommunications and natural gas utilities currently service existing users within the CBD and all have the capacity to expand to serve reuses of existing space as well as new development.

- Electric service requests for expansion must take into account the time lag involved with design, bidding and construction, all of which is done under the auspices of Mass Electric. Given that the majority of land areas identified as having development potential are centrally located within the CBD (where primary service is underground), expansion of the primary electric service will likely be via the existing underground system. This is significantly more expensive than overhead service. Overhead service is practical for lands near Peter Street and adjacent to Pleasant Street where overhead service is available.
- Telecommunications services (Verizon) are currently provided in wide variety. Major CBD users include The Commerce Group and the banks. As the local provider, Verizon represents state of the art communications technology and is a definite plus for Webster in attracting new business.
- Natural gas service is available in a capacity (high and low-pressure lines in Main Street) that will accommodate essentially any service need (reuse and new development). Gas is often preferable to electric or oil based on space restrictions, equipment and cost. Expansion to meet local needs is typically accomplished by the utility. As with electric service, there is often a backcharge to the customer to cover the difference between the cost of the new installation and anticipated revenues. Backcharges for this utility are traditionally much less than that for electric service expansion.

Water

While service is currently adequate for the CBD, the age of the service mains is a concern. The pipe materials (unlined cast iron) and fittings do not meet current standards (cement lined ductile iron) and this ultimately affects water quality and flow rates. Also, main extensions in the intersecting streets are minimal at 6-inches. This presents some problems for any future development along the French River within the CBD with respect to providing adequate fire and domestic flows.

Sanitary Sewer

The sanitary trunk line running along the Access Road is convenient for future development discharges. Fortunately, this alignment does not compromise future development on the lands fronting the French River and is well paced for an extension of the Access Road to Peter Street.

Stormwater Management

Any new development must meet current MEPA regulations governing collection and discharge of stormwater runoff. The existing Day Brook culvert presents an opportunity to collect new discharges from any proposed new development along the French River as well as the proposed new parking lot additions. Feasibility for this approach must be demonstrated by hydrologic analysis to insure that the existing culvert has excess capacity. The benefit in using the existing culvert or other existing outfall to the French River is simplification of the environmental permit process. Failing this option, the town would be required to pursue permits for new outfalls. Regardless, any new

discharges will have to include water quality control devices (oil / water and sediment collection) as a part of the new system. Where new development does not significantly contribute to increased rates of stormwater runoff (pervious vs. impervious surfaces), stormwater retention may not be a requirement. However, pending flood hazard criteria for the French River, new development in some areas could require flood hazard controls.

Environmental Boundaries and Restrictions

Flood Boundary

Some of the more dynamic development opportunities exist along the French River. Existing development occurring within floodplain boundaries (see Figure 14) can remain and be upgraded. Any new development proposed to occur in the floodplain must meet current regulations controlling development within the 100-year flood boundary. This includes a restriction on filling the site and required flood proofing of any inhabited structures. Flood boundary restrictions are further compounded by the Rivers Protection Act.

Rivers Protection Act

There appears to be sufficient flexibility in the applicable sections of this Act to allow for some development along the French River within the CBD. Certainly, all existing disturbances (parking lots, buildings, and retaining walls) are basically “grandfathered”, but any reuse will be required to show an upgrade of the existing condition. Within the CBD, new development can come within 100 feet of the river’s edge. Additionally, under the “Alternatives” section of the Act, there are circumstances that would enable new construction within the Riverfront Area; i.e., closer than 100 feet but never closer than 25 feet from the river’s edge. A part of the Alternatives allowances may require the developer to restore previously disturbed lands on a 1:1 ratio to proposed new development within the Riverfront Area.

V. Next Steps

1. Parking

This study identifies two parking lot projects (Figures _ and _) to be constructed as Phase II of this project. These lots will be constructed utilizing a portion of the Webster PWED grant, monies from which have also funded this study. The subject areas have been surveyed and are currently in a preliminary design phase. Once final design documents, reviews and approvals are complete, the project can be bid and constructed. It is anticipated that the parking lot projects will be complete in late 2003 or early 2004. Because the construction areas include a combination of town and privately owned lands, implementation is dependent upon:

- Demolition of the old theater building
- Defining parking rights for the respective property owners insuring they have designated parking spaces allocated for their use.
- Town acquisition of the subject private properties

2. Urban Renewal Plan

Phase III will complete work started in Phase I on the Urban Renewal Plan. A completed, adopted and approved Urban Renewal Plan will provide the town with the tools necessary to begin implementation of the vision and provide economic development in downtown Webster. Development of an Urban Renewal Plan will include the following elements:

- Conduct Market Study: A market study should be conducted by an economic development and real estate professional. The study should look at both the regional market and the market in downtown Webster. Potential demand for various uses such as housing, office, and retail should be quantified. The study should also propose a short and long term strategy for attracting businesses and developers interested in investing in downtown Webster.
- Coordinate with Dudley: Because economic regions are not bound by town lines, downtown Webster serves as the commercial core for Dudley as well as for Webster. A new riverfront park system will benefit the two towns in terms both of open space and development potential. Coordinated planning will help ensure the long term success of the project and revitalization efforts. Coordinating planning between two towns might be challenging but, because Phase II of this project includes the completion of a state sponsored urban renewal plan (discussed below) the jurisdictional issues should be simplified. The potential to complete a joint Urban Renewal Plan under state leadership would provide a comprehensive approach to economic revitalization and environmental planning.
- Expand Development Concepts: With the results of the market study the study team in coordination with the Citizens Advisory Committee will look at alternative development concepts. In this phase of the project opportunities through out the project area will be examined. Concepts will likely range from small infill projects and rehabilitation project to land assembly strategies that will allow for larger or phased projects. Concepts begun in this plan will be developed further and flushed out in more detail.
- Recommend Infrastructure Improvements:
 - Vehicular Circulation: This study has identified some significant road modifications that should be further evaluated within the context of a conventional Urban Renewal Plan (URP). Once completed and accepted the URP will become a vehicle that can leverage funding to accomplish the proposed road improvements.

Road new construction and reconstruction activities can then be identified as individual projects and, as such, will require a design and review process involving local and state agencies. The time line for this process is influenced by many factors including reviews, approvals, permits and the general economy. Relatively short-term improvements that would still require reviews, approvals and permits, but without the costs of new construction include:

- Re-striping Main Street
 - Signal phasing
 - Signage
 - Traffic pattern modification
- Pedestrian Circulation: Many of the pedestrian improvements involve signing and pavement marking. Others will require lighting and are contingent on road improvements and new intersection signalization. The following minor improvements are recommended as changes that will complement the recommended short-term vehicular circulation improvements:
- Elimination of Main Street pedestrian crosswalk
 - Signage
 - Coordination with new and existing walkways related to the new parking lot construction
- Utilities / Water Service / Sanitary Sewer / Storm Drainage
- Utilities: New parking lot construction will take into account any practical need to include underground conduit for future needs as well as any existing requirements for electric and / or telecommunications services. KeySpan (natural gas service) has long-range plans to upgrade their high-pressure line in Main Street. Compared to the disruption of other underground services (sanitary / storm), this construction period will be a shorter-term event.
 - Water Service / Sanitary Sewer: There are no immediate plans to upgrade the existing mains.
 - Storm Drainage: There will be new storm drainage associated with the parking lot construction projects. To the extent possible, new pipe systems will discharge to existing networks.

Appendix A: Resources

In addition to field inspections of the project area, the following sources provided background information for this study:

Hard copy materials

- Assessor's information
- *Downtown Main Street Parking Study*, Cullinan Engineering, January 1999
- *Town Of Webster Master Plan*, Central Massachusetts Regional Planning Commission, December 1989
- Town maps (various): property boundary, topographic, street planimetric and underground services (water, sanitary, storm).
- Flood Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM)
- Southwest Subregion Inter-Community Trail Connection Feasibility Study, October 2001
- MEPA River Protection Act
- Local Zoning Codes / Regulations
- Maguire Group Inc. A-2 Class Boundary and Topographic Surveys (selected properties)
- State aerial (ortho photo)
- State topographic mapping
- Tile search for specific properties (Town sponsored, October 2002)
- Maguire Group Traffic Study
- Town circulated parking needs questionnaire

Interviews

- Bernard Cartier: Providence and Worcester Railroad representative
- Ms. Marielle Stone: MEPA staff liaison to Central MA municipalities for the Riverfront Protection Act
- Mr. Gerald Fels: Executive Vice President, The Commerce Group, Inc.
- Municipal Staff: Stanley Duszlak (Engineering); David Lavalee (Water Superintendent); Philip Roberts (Sanitarian)
- Verizon (telecommunications): Tom Moriarty – Account Executive Central Mass

- KeySpan Energy (natural gas): Mark D'Amico – local representative
- Mass Electric Co.: Michael Thompson – local representative

EXECUTIVE SUMMARY

I. Introduction

Study Purpose and Approach

The purpose of this study is to plan for the revitalization of downtown Webster. Through a public, State sponsored process, the town, the Community Advisory Committee, and the consultant team will develop a comprehensive strategy for revitalization including the following.

- traffic and parking;
- vacant lots along Main Street;
- rehabilitation of the theater;
- the “fringe area” along Main Street near Union Street;
- riverfront open space opportunities; and,
- working with the State through various revitalization programs to implement change.
- Resolving downtown traffic and parking issues
- Developing public open space along the French River
- Utilizing vacant land along the river
- Supporting existing retail on Main Street
- Infill development
- Rehabilitating historic buildings and finding new uses for upper floors

Study Phases

Phase I consists of the preparation of final design documents for the construction of selected parking lots downtown.

Phase II is an urban planning component documented in this report. This phase focuses on proposed circulation improvements as well as an inventory and analysis of existing conditions related to building conditions, traffic, land and building use, underutilized land, demographics, and history. Phase II also includes conceptual ideas for open space and development along the French River

Study Area

The project study area corresponds to the core of downtown Webster with Main Street passing east/west through the center. The northern and western boundary is the French River. The southern boundary is approximately one block south of Main Street following the alignments of Barnes and Negus Streets and

Church Lane. From Church Lane the project area follows Lake Street to Main Street to Peter Street and back to the French River to the north. In total the project area is 56.2 acres. See Figure 1.

Study Approach

Beginning with a set of Webster basic development goals, the Consultant Team implemented a fundamental planning approach that was conducted as a 3-stage effort.

- Stage 1: Inventory of the existing condition based on field observations, extant reference materials and interviews.
- Stage 2: Analysis of the existing condition with respect to development opportunities and constraints and the determination of development potential.
- Stage 3: Creation of development concepts that include the urban infrastructure, existing building stock reuse scenarios and new development opportunity. Throughout this planning process the Consultant Team solicited input from town staff and a CAC established specifically for this study. Considered as a Project Team, consultants, town staff and the CAC worked together to develop the final vision for Webster which incorporated the work contemplated in the Phase I construction project.

The Project Team

Consultant Team

Maguire Group Inc., New Britain, CT / Foxborough, MA: Project Managers, Engineers, Site Planners - Carl U. Mueller, L.A., Project Manager

The Wallace Floyd Design Group, Boston, MA: Urban Planners – Carole Schlessinger, Principal Planner

The Miller Group: Urban Renewal Specialist - Thomas Miller, Principal

Traffic Engineering Solutions: Traffic Engineer – Bruce Hillson, P.E., Principal

Webster Town Staff

Office of Community Development: Carol Cyr, Director

CAC Members and Alternates

Members:

Robert Stawiecki: Selectman

Mark Stankiewicz: Town Administrator

William Radcliffe, Jr.: Resident

Robert Craver: Director, Chamber of Commerce

Philip Greil: Resident

Terri Stone: Webster School System / WPC

William Keefe: Police Department (Officer)

Michael Hopkins: Resident / Local Developer

Gary Luksha: Resident / Local Business Owner

Alternates:

Marilyn Travinski: Director, Tri-Valley Elders

Randy Becker: Commerce Insurance Company

Dan Marcoux: Resident / Local Business Owner

Melissa Larini: Resident / Local Business Owner

Nancy Healy: Resident / Local Business Owner

Benjamin Smith: Resident / Local Business Owner

II. Existing Conditions

Historical Perspectives

As with many small New England towns located along waterways, Webster can boast of a rich history that includes early Native American habitation followed by an influx of European settlers. The Great Trail that linked Boston and Hartford would eventually spin-off secondary ancient trails such as the Narragansett Trail, which passed through the Webster-Dudley area. Over the course of time, trails became roads and highways. Under the European influence, Webster became a mill town characterized by small mills operated by workers living in local villages comprised of single family homes on small lots, accessible via a network of streets. Under the generational impetus provided by the Slater Family, Webster became the largest and most prosperous area town, eventually participating in aspects of the shoe industry as well as its mainstay, textiles. Construction of the national highway system eventually placed Webster downtown in a by-passed situation and, as a result, Webster has experienced economic decline since the 1970s.

Today, the visitor can still experience some great historic building stock and pleasant aspects of the small-scale intimacy that still characterizes the central business district (CBD) and related residential neighborhoods. These are the qualities that the town should try to preserve and enhance.

Downtown Demographics

In downtown Webster there are neighborhoods that are very close to the main commercial area. There are also a number of apartment buildings mixed into the commercial fabric. The relatively high percentage of residents who walk to work reflects this development pattern and the economic opportunities in downtown Webster. Eight to nine percent of the working population of the two downtown block groups walks to work. On a town wide basis only 4 percent of the working population walks to work.

The downtown block groups contain 20 percent of town wide housing units. Larger portions of housing downtown are renter occupied, 78 and 87 percent in the block groups compared to 58 percent town wide. Median rent in downtown was reflective of the town wide median. The median housing value of owner

occupied units was \$101,000 and \$132,000 in the downtown block groups and \$109,000 on a town wide basis.

Land Use and Urban Character

Downtown Webster has a mix of both commercial and residential uses within the 56-acre study area (see Figure 2). There are a few light industrial / auto-oriented uses south of Main Street and west of the railroad tracks but none are particularly obtrusive. The land use map shows about 40 percent of the land area as either vacant or parking and an additional 30 percent as rights-of-way. The only open space in the downtown area is the landscaped grounds of town hall and the library.

South of the commercial uses along Main Street land use is primarily residential. North of Main Street most of the land area is either vacant or used for parking; beyond this vacant/parking zone is the French River. North of Main Street and west of the railroad tracks is a small district of light industrial uses and a few houses in poor repair.

Parcelization & Ownership

Parcels in the northern half of the project area, north of Main Street, are typically larger than those to the south. There are four significant landowners in the downtown area: the Town, the Commerce Group, Nancy Healy, and Daniel Marcoux. South of Main Street the ownership is more diverse and parcels are typically sized for single or multi family houses.

Development Plans

There are some active and potential development / expansion activities within the CBD. Within a short-term planning context, those most pertinent to this study include: plans to renovate vacant buildings on Main Street at the eastern end of the Study Area, the planned demolition of the old theater in spring 2003 and the continued interest of the local Railroad Club in bringing more of that history into the CBD in the form of a potential railroad museum.

Infrastructure

Infrastructure includes virtually all of the site elements that constitute a community. In the context of this study it is the basic circulation elements (streets, parking lots, walks) and all of the community support systems; i.e., underground and overhead utilities and services (electric, gas, telecommunications, water, sanitary, storm drainage).

Circulation

Vehicular

Origins and destinations of drivers determine the traffic patterns that characterize the CBD vehicular impacts; e.g., the major vehicular movements between the I-395 corridor and points south and west via the Town of Dudley, MA. Traffic volume and management is recognized as a key issue in any discussion about the CBD. Route 197 (Main Street and South Main Street) is an Arterial Roadway that carries traffic into and through the Study Area of Downtown Webster.

Traffic signals control traffic at the intersections at either end of the Study Area: Main Street at Pleasant Street and Chase, and Main Street at South Main and Lake Streets. In addition to the pedestrian cross walks and exclusive pedestrian phases at the signalized intersections there are seven pedestrian cross walks at mid-block and unsignalized intersections throughout the Study Area.

The street system within the Study Area does not allow traffic on any of the side streets to gain access to the signalized intersections at the east and west ends of the Study Area. Similarly, the signalized intersection of Main Street, South Main Street and Lake Street at the east-end of Downtown does not provide access to and from the land uses north or south of Main Street. The Cullinan Parking Study (January 1999) indicates that the 1998 Average Daily Traffic (ADT) volume on Main Street was 22,000 vehicles per day.

Driver behavior in the Downtown Area is beneficial to pedestrian and commercial activities along Main Street, as pedestrians apparently feel confident that drivers will yield to them when they cross Main Street. The presence of traffic signals at both ends of the study area, the mid-block cross walks at several locations between these signalized intersections, and the heavy traffic combine to slow travel on Main Street which, in turn, creates a beneficial environment for pedestrian and commercial activity.

Table 1: Signalized Intersection Capacity and Queue Analysis – 2002 Existing Conditions

	Peak Hour	Delay	LOS	Eastbound Queue ¹	Westbound Queue
Main Street at South	AM	17.6	B	425	275
	Mid PM	35.2	D	1025	550
Main and Lake Streets	PM	26.1	C	985	575
	Sat Mid	17.3	B	550	525
Main Street at Pleasant	AM	17.2	B	775	400
	Mid PM	19.8	B	700	675
Street/Chase Avenue	PM	19.4	B	675	600
	Sat Mid	19.0	B	725	600

NOTES:

LOS = Level of Service

Delay = Average delay, in seconds, to all vehicles entering the intersection.

Conclusions

- Large traffic volumes on Main Street, while potentially beneficial to CBD economic health, tend to use Webster as a conduit between out-of-town points of origin and destination.
- Main Street signalization and crosswalk frequency create poor levels of service (LOS) at peak traffic hours.
- The existing Webster CBD culture of driver courtesy toward vehicle movements from side streets and pedestrians provides a good foundation for future modifications to traffic movement on Main Street.

Pedestrian

Despite the various issues associated with the stagnant economic health of the CBD, Webster is fortunate to have a downtown land use framework with off-street parking generally located behind the Main Street businesses and a Main Street that is essentially uninterrupted building facades. How well this arrangement works is a function of parking lot layout, directional signage and the provision of a safe environment. To this may be added the amenity of aesthetics, or good design. Regarding the Webster CBD, observations include:

- Some parking lot layouts tend to be poorly defined thereby promoting unsafe pedestrian movements within the context of the parking lot.
- Pedestrian ways from parking areas to the Main Street sidewalks are not well marked.
- Some access driveways from Main Street to the parking areas are abrupt and can present hazards to the pedestrian. This is condition often occurs in other urban areas and is not peculiar to Webster.
- Pedestrian access to parking lots located to the north of Main Street is more difficult due to elevation differentials and poor directional cues.
- There is no apparent invitation to approach the riverfront as a recreational or aesthetic opportunity.

Conclusions

Improvements to pedestrian circulation within the CBD must be made in combination with improvements to the vehicular circulation and parking conditions. Existing as well as proposed new land uses should acknowledge the pedestrian's need for direction, access and safety. Some factors to consider as design guidelines:

- The pedestrian, as driver entering the parking lot, should be provided with visual cues to walkways.
- Walkways connecting parking to building rear entries and Main Street sidewalks need to be easily identified, safe and well maintained.
- All walks must be ADA accessible.
- Destinations may not always be line-of-sight apparent, but the pedestrians sense of origin / destination should always be clearly understood. This is a function of signage, graphics and night illumination.
- Amenity is an important ingredient and should be made a part of any improvement.

Parking

The Cullinan Parking Study has been utilized as a baseline reference for this study. Of specific value are the parking counts, utilization percentages and occupancy rates determined in the Cullinan document. This study has applied the Cullinan data within a proposed land use framework that considers future new development primarily within areas north of Main Street as well as reuse of existing building space above ground floor levels. The following Cullinan Study points are also pertinent to this study:

Downtown Goals

- Enhance retail and commercial business
- Maximize business opportunities
- Create a vibrant business environment
- Improve traffic circulation and accessibility to the CBD
- Provide sufficient parking for existing uses

- Plan for future parking demand

Public Parking

Parking within the Webster CBD is accommodated within conventional parallel city street parking aisles with metered controls; most with 2-hour time limits. Unmetered parking is available in designated town lots located behind Main Street businesses. As observed in the Cullinan Study, the designated public lots located close-in to Main Street are convenient for shoppers and experience occupancy rates of 100+%, while others that are somewhat removed from Main Street have occupancy rates of under 50%. There exists today a 100-space deficit (Cullinan Study) of convenient parking spaces within the CBD.

Conclusions

This study interprets the public parking problem as being the result of several factors (some which have been identified in the Cullinan Study):

- The parking problem rests solely with the off-street parking arrangements. There are too few designated public parking spaces located with convenient access to Main Street shopping and services.
- Employee parking is occurring in spaces that should be designated for the interim visitor. This is true for metered street parking as well as for the off-street lots.
- Parking lot layouts (in general) have evolved over time based on need. Consequently, parking efficiency has been lost. This is evident when the CBD is viewed as a whole.
- Directional signage is substandard or non-existent making access to public parking viable only for those having familiarity with the CBD. Visitors would tend to be discouraged and decide, instead, to move on to a more accessible choice; perhaps at a destination outside the Webster CBD

Private Parking

Compounding the public parking deficit is the arrangement between The Commerce Group and the Town whereby a large town-owned parking lot (124 spaces) fronting the French River is largely utilized by Commerce Group employees. This lot supplements Commerce Group privately controlled lots north of Main Street providing the 250 spaces currently occupied by their employees. Unlike the Commerce Group lots which typically run at 90+% occupancy rates (the exception being the Commerce Group owned 68-space lot along the west side of the railroad corridor), the balance of the off-street private parking lots within the CBD are realizing less than 50% occupancy rates.

Conclusions

Private parking accommodations are generally convenient to their users. The Cullinan Study data would indicate that private parking capacity is not an issue except where some private lots, because of their accessibility, are trespassed upon by CBD employees not affiliated with the lot owner. Control, in these instances, becomes an enforcement issue. Other considerations are that:

- As with the public parking lots, evolved layouts have resulted in certain inefficiencies.
- The apparent under-utilization of available private parking spaces represents a potential opportunity for the town; e.g., introduction of a public / private parking space shared use program.
- In the short-term there are some opportunities to improve private lot capacities. The Senior Center is a prime candidate requiring relatively minor site work and pavement re-stripping.

- The Commerce Group owned lot located along the West Side of the railroad corridor is virtually unused due to poor proximity to the offices and security concerns. This lot would better serve an adjacent facility or a new use.

Utilities / Water Service / Sanitary Sewer / Storm Drainage

Webster is serviced by a full-spectrum of utilities (electric, telecommunications, gas) and local services (water, sanitary and stormwater drainage systems).

Conclusions

- Existing utilities (telecommunications, electric and natural gas) have sufficient capacity to service new development within the CBD. Any new service requirements must be cognizant of time requirements to obtain new service.
- The town water supply is currently adequate to supply existing and new business needs. However, as residential expansion occurs in other sections of Webster (southeastern and southwestern quadrants) there will be increasing demand on the existing town wells. Water pressure tests indicate reasonably good pressures within the CBD for fireflow at street level and domestic service in mid-rise buildings (3-4 story). However, new development within the CBD may require extension of 12-inch service and expansion via new 8-inch mains based on flow needs.
- With the WWTP operating at under 50% capacity (source: Town Sanitarian), there appears to be plenty of capacity to meet future demand. However, anticipated new development in other parts of town (especially residential and industry discharging process water) must be factored into proposed development within the CBD.
- Stormwater management is accomplished through the use of culverts and conventional closed-system storm drainage pipe networks ultimately discharging to the French River. At this time there are no apparent water quality controls in place. Any new storm drainage designs must follow current MEPA requirements for control of runoff and discharge to local watercourses. Future development must take into consideration the location of the Day Brook culvert.

Environmental Boundaries and Restrictions

Flood Boundary

The 100-year storm flood limit (Base Storm Event) does affect portions of the lands along the French River within the CBD where the greatest opportunity exists for new development. These areas are known as Flood Plains. It is possible, within selected criteria, to construct within the flood plain. Among other things, the structure must be flood-proofed and not diminish flood storage capacities (fill).

Rivers Protection Act:

In 1996 the Massachusetts Legislature passed the Massachusetts Rivers Protection Act (MRPA). As a law, this act amends the Wetland Protection Act, MGL Chapter 131 Section 40. Its objective is to protect rivers in the Commonwealth by regulating activities within a newly described area along the watercourse now known as the Riverfront Area. The MRPA is enforced under the provisions and regulations as set forth by the Massachusetts Department of Environmental Protection (MEPA) under their wetland regulations 310 CMR 10.00.

Site Constraints and Opportunities

As a pre-requisite to the exploration of land use concepts, an analysis of site constraints and opportunities provides important planning guidelines. Guidelines affecting future development decisions include the

physiographic characteristics of the study area (topography, substrate) and sensitive environmental impacts (the French River, wetlands, flood boundaries, flood plain and Riverfront Area) as well as cultural elements (infrastructure, buildings, streetscape, aesthetics).

Physiographic

Constraints

- Incremental grade changes in the mid-block parking area (Main, Mechanic, Church and Negus Streets) constitutes an additional development expense if these areas are reconfigured to a single large parking area (removal of low retaining walls and regrading).
- Elevation differentials of from 5 feet to 15+ feet between Main Street and rear parking areas to the north pose some design problems to developing pedestrian (ADA compliant) and vehicular through connections (Lot F-10).
- Elevation differential between High Street and the railroad corridor (25' feet) combined with the presence of ledge are significant cost impacts to any development in this area (Lots T-3, 4, 5, 6 and 7).

Opportunities

- The gradient changes within the CBD and south adjacent residential areas occur in plateaus creating visual interest and physical separation to the various land-uses. This works in favor of new development by reducing the impact of multi-story construction; especially along the river corridor.
- Vertical differentials create view sheds, which can be enhanced architecturally and with landscape planting.

Environmental

Constraints

- The 100-year flood plain tends to limit new development choices and will add expense to the construction (flood proofing) as well as increased insurance rates.
- The Riverfront Area, as defined by the Rivers Protection Act, encumbers various land areas fronting the French River. These are areas that will not be available to developers.
- Any new development proposed on riverfront corridor lands north of Main Street must consider the impacts due to protracted approvals subject to the environmental permitting process and special construction costs related to the conditions of approval.

Opportunities

- The French River and its related environmental boundaries represent a unique feature in the urban context. While the river corridor presents some real challenges for reuse options and new development, the special benefits accrued vis-a-vis the river environment are an asset.

Cultural

Constraints

- There are many streets / driveways that outlet onto Main Street and many pedestrian crossings (safety and congestion issues)

- Multiple access / egress points to various parking lots throughout CBD (confusion)
- The railroad tracks are a physical line of demarcation dividing the west and east CBD
- Main Street is a high volume traffic conduit having poor directional queues for potential CBD visitors.
- Storm culvert (location and capacity)
- Sanitary sewer interceptor (location)
- Surface parking need vs. development value of limited urban real estate.

Opportunities

- Better coordination of drive access / egress and pedestrian cross-street movement will improve issues of safety, confusion and congestion within the CBD. The introduction of special pavements in major pedestrian crosswalks could serve to heighten identity for pedestrians and drivers.
- The railroad crossing is a significant visual interruption and traffic-calming event that could also be an excellent location to develop a downtown "Gateway" identification (just to the west of the crossing).
- The high traffic volumes can be made a benefit by introducing a combination of better-coordinated drives and pedestrian crossings with effective signage and modified vehicular controls (signalization and lane definition).
- Fortunately, the Day Brook Storm Culvert and sanitary interceptor alignments do not pose serious constraints to development and, in fact, actually can be an asset based on their convenient location in that they provide convenient opportunities for new development lateral connections.
- Short-term use of available lands for surface parking can alleviate current and near-term parking deficits. As "developed" parcels, the surface parking can more easily be turned around for new development.

III. Concepts

Land Use and Development

Development Principles

The Land use and Development Concepts were developed around the following overriding principles:

- For this phase of the project, development concepts focused on the land between Main Street and the River because the new access road and parking layouts on the north side of Main Street will result in reparcelization of that underutilized area.
- New development should support existing retail along Main Street rather than compete with it.
- Increasing open space and connections to the river will create a strong amenity for residents and potential developers.

- Ideally a combination of open space and new housing would be created at various points along the river.

Combining new open space with housing could create opportunities in the short term to fund riverfront restoration with new development and in the long term create a constituency that lives along and watches over riverfront parks. Multiple river crossings and access points will create many opportunities to link new development and open space to Main Street. Streetscape and landscape projects will help integrate the river and adjacent development along it to the Main Street commercial area. A project of this magnitude will benefit both communities and should be coordinated from the outset. Phase III of this project will begin this coordination and could potentially involve a two-town Urban Renewal Plan. Such a plan will assist Webster and Dudley in encouraging the redevelopment of these areas and allow for sound planning and environmental management for the river itself.

Development Concept

Preliminary open space and housing concepts for the area along the new road and immediately across the river in Dudley show three to four story residential walkup buildings or townhouses. The basic premise of all the concepts is to enliven this area with new residential development and new parkland along the river. Because of traditional development patterns in downtown Webster, most properties turn their backs to the river; new development should address the river more directly. Residential buildings are arranged take advantage of the open space without limiting public access to the riverfront. Streets connecting this area to Main Street provide direct public access to the riverfront. Wherever possible new residential development faces complementary residential uses to create streets that have a “neighborhood feel.” Housing in this area should also take advantage of new parking lots and shared parking opportunities that exist with office uses that have opposite peak periods.

Parkland is shown expanded beyond the 25 foot buffer required by the Rivers Protection Act to include wider sections that can be used for multiple purposes. Sections of riverfront should be connected both along and across the north and south shores to create continuous park land with multiple access points.

Infrastructure Concepts

Circulation and Parking

Vehicular Circulation

This study identified several factors that slow and back traffic along Main Street in the Downtown:

- Traffic queuing at the signalized intersections
- Drivers stopping for pedestrians crossing at one of the mid-block locations
- Left turning vehicles blocking through traffic on Main Street
- Drivers stopping to let side street traffic enter Main Street
- Drivers stopping to let vehicles park or leave on-street parking spaces

Improvements to address the factors listed above and to allow traffic to flow more easily through Downtown Webster are identified herein, but need to be weighed against the impact these improvements would have on pedestrian and commercial activity through the Study Area. These improvements include:

- Remove parking from Main Street in front of Town Hall and relocate the mailbox away from the Town Hall block.

- Revise the traffic signal timings to provide preference to the Main Street approaches at both signalized intersections. This improvement is easily implemented and would improve traffic operations at the Lake Street intersection while reducing the eastbound queue during the mid-afternoon and late-afternoon peak periods. The impact of this improvement would require eliminating the seven parking spaces in front of Town Hall and relocating the mailbox to another area.
- Reduce the number of mid-block pedestrian crossings to reduce the number of stops made by drivers as they travel Main Street.. Its impact would be the reduction of options available to pedestrians to cross-Main Street Street, making them walk further to a designated crossing area. The farther walk is offset by increased safety.
- Shift the yellow centerline to provide a 28-foot width in the westbound direction and 22 feet in the eastbound direction. This will allow through traffic to continue past vehicles turning left from Main Street onto Church Street, Mechanic Street, School Street and High Street while maintaining all on-street parking. There would be no negative impacts as pedestrian movement and on-street parking would not be altered with this improvement.
- Install a traffic signal at the intersection of Main / Church Streets and Duggan Drive to provide a location where Access Drive traffic can easily enter the flow of traffic on Main Street. This improvement would require removal of some on-street parking to provide left turn lanes as well as through lanes in each direction on Main Street. Coordination with the traffic signal at the Lake Street intersection would be necessary to avoid backing between the two intersections.
- Improve and extend the Access Drive to intersect with Peter Street. This will increase the capacity of the Access Drive and provide another point of access / egress to Main Street.
- Alternatively (to the Church Street traffic signal), Davis Street could be included into the Pleasant Street / Chase Avenue traffic signal to provide access from the area between Main Street and the French River. Access to the area south of Main Street could be improved by installing a new traffic signal at the Mechanic Street intersection. On street parking in the vicinity of Davis Street at the Mechanic Street intersection would be impacted by the need to provide left turn lanes on Main Street. Coordination would also be required to assure that the three signalized intersections operated in concert.
- Add a fourth leg to the Main / South Main / Lake Street intersection to provide access to the area between Main Street and the French River and install a new traffic signal at the Mechanic Street intersection. Adding the fourth leg would require demolition of existing buildings opposite Lake Street.

Parking

Study Parameters

- The Town Hall parking lot should have public (visitor) space available. Given this premise, this lot (unlike the Cullinan Study) is included in the parking space tabulation.
- Existing business / institutional uses having well-defined, discrete private parking areas are considered an existing condition to remain; e.g., church and bank lots, business / residential use, post office and library. (As such, these parking areas are not included in the parking counts in the following table tabulations.)
- Existing parking areas that are adjacent and a mix of public / private use are considered opportunities to create greater efficiency and safety through modification of the layout.

- Shared parking (public / private) solutions are reasonable alternatives.
- Public parking must be ADA compliant.
- Property acquisition is a necessary consideration to effect significant infrastructure improvements.
- Primary existing underground infrastructure (sanitary interceptor and storm sewer trunk line) must remain accessible.
- The railroad corridor intersection with Main Street is considered the only point of crossing.
- With the exception of The Commerce Group (and one or two others), all 1st floor spaces are business uses. All 2nd floor and above spaces are potential storage and / or residential use.
- Residential use is defined as apartment space with average size of 700 square feet per unit.
- The Commerce Group currently uses 250 parking spaces. The potential for growth will add another 200 employees. Factoring ride sharing, a total parking space requirement total of 400 is projected.
- The Commerce Group has indicated that it may (at some future date) divest itself of the warehouse located along the railroad corridor. The potential reuse, for study purposes, is business (professional office or other service industry).
- The riverfront potential reuse is residential.
- A parking garage is considered a viable addition to the CBD. This scenario is consistent with proposals entertained in the Town Master Plan (1989).

Table 3: Comparative Parking Needs Analysis

PARKING CATEGORY	CULLINAN STUDY PARKING DATA	WEBSTER DOWNTOWN IMPROVEMENT FORECASTED PARKING NEEDS
Existing On-Street	182	182
Existing Off-Street	679	679
Ex. Town Hall Lot	30	30
Sub Total	891	891
Future Need Business Expansion	100	100
Future Need (Commerce Group)	200	200
Future Need Based On Proposed Building Reuse	0	*131
Total Required	1191	1322
Projected Deficit	300	**431

* The Commerce Group warehouse as business (30 parking spaces) + 2nd floor and above building space reuse as residential apartment units (284 parking spaces).

** Note: If we eliminate the residential reuse requirement of 284 spaces, then 614 spaces – 284 spaces = 330 space projected deficit which is generally consistent with the Cullinan projected deficit of 300 spaces.

Conclusions

For purposes of this study, and in lieu of a current marketing study, we are forecasting a CBD upper level building space reuse potential for residential apartments. While there are now some business uses above the ground floor level, they are few. Given the inherent difficulties of maintaining upper level successful business ventures (The Commerce Group is an exception) in this type urban context, it is reasonable to suggest a residential use as one that has historical precedence and one that represents a positive goal for the town. More urban residents will work to enliven the CBD and help to support the economic growth of small business. Considerations in context with the parking space needs assessment issues suggest that:

- Clearly, additional parking spaces are needed to accommodate both the expansion needs of The Commerce Group and the forecasted needs of small business. This study estimates an additional 600+ spaces if we factor in added CBD residential apartment space.
- Available public spaces, based on utilization factors, are not being used because they are inconvenient and / or considered unsafe and undesirable. In some instances, these spaces can be improved; in others, the spaces will never be used for access to the CBD.
- The generation of additional ground surface public parking spaces can be effected by; (1) improving the efficiency of existing lots by reconfiguration; (2) constructing new ground surface lots; (3) creating a shared-use (public / private) parking arrangement in an effort to realize 100% utilization of all parking facilities, and; (4) construction of a multi-level public parking garage that would also accommodate space for private utilization.
- The findings of this study reinforce those of the Cullinan Study; i.e., that there is a short-term need for an additional 300+ convenient parking spaces within the CBD.
- The existing 68 essentially unused parking spaces located in the Commerce Group lot west of the railroad corridor must be replaced within the heart of the CBD. While they have been factored into the total parking tabulations, practically speaking, they are considered an irretrievable resource as a benefit for CBD visitors and should be considered a part of the overall cbd parking deficit.

Table 4: Parking Tabulation Based on Proposed Lot Reconfigurations and New Construction

PARKING LOT ALTERNATIVES	NET SPACE GAIN	CUMULATIVE BALANCE
Total Parking Deficit *	-	-368
A. Senior Center Lot	+16	-352
B. Main Street Lot	+37	-315
C. Parking Expansion (Old Theater Area)	+52	-263
D. Parking Expansion (Block G- Lot 6)	+50	-213
E. Shared Public / Private Parking (Block M)	+83	-130
F. Parking Garage	+161	+31
Totals	+399	+31

- * Total deficit is understood to mean 300 spaces (Cullinan / Maguire Studies) + 68 spaces (Commerce Group lot on west side of railroad) = 368 spaces needed to meet short-term parking needs.

Conclusions

- If retaining open space for future development and aesthetic purposes, while still meeting parking needs, is a major CBD goal for the Town of Webster, then serious consideration should be given to solutions that can accommodate parking different from surface parking lot construction; e.g., a parking garage.
- If the Commerce Group downtown expansion is not imminent or dependent on available parking space, then Parking Lot Alternatives A through D will provide for current parking needs.
- The Commerce Group has indicated a willingness to consider satellite lot parking with shuttle service. Clearly, this creates some inconvenience and collateral expense and may pose some security concerns. However, such a solution could meet Commerce Group expansion needs and, perhaps, be considered a short-term arrangement until a parking garage could be funded and constructed.

Future Parking Needs

The report section on Land Use Concepts explores some alternative uses (new development) for lands within the study area that are either undeveloped or currently occupied and having reuse potential. All new development will have a requirement for parking. In some cases an existing building with reuse potential will already have parking sufficient to support the proposed reuse. In undeveloped areas, new development must consider parking requirements and accommodation within the targeted development area. Specific to the town of Webster are the following suggested new development opportunities and related parking needs:

- New Development (Residential): In addition to upper level apartment dwelling in existing buildings, new residential located along the French River would require its own parking facilities. Depending on parking ratio requirements, parking could be surface-type, a combination of surface and ground level under the building or a multi-level parking area as part of the overall building. Raising living areas near or within the 100-year flood plain above a parking level would constitute flood proofing.
- Building Reuse Opportunity (CG Warehouse): As a relatively new structure and a warehouse configuration, this building has a certain degree of use flexibility. As a warehouse use there is currently ample parking. Should this use become more business oriented, there may be need to expand the parking needs.
- Senior Housing (High Street): Similar to suggested parking accommodations for proposed housing along the French River, a housing use on this site should incorporate parking within the building footprint. The site elevation differential (30' ft) lends itself to creating multi-level parking on the lower levels as a part of the architecture thereby leaving site space for recreational development related to the building use. Access to lower parking levels can occur from High Street.

Pedestrian Circulation

Pedestrian movements generally initiate from a parked vehicle and continue via walkways throughout the CBD. Dynamic and accessible CBD environments all share certain fundamental characteristics: well-identified parking areas, well-defined parking lot vehicular access/egress, a defined / safe walk system from the lots to business / retail destinations and ample parking facilities discretely located to service the various businesses within the CBD. The French River corridor in the CBD provides Webster with a unique opportunity to create local amenity and aesthetics as well as an urban passive recreation element. The pedestrian and vehicular circulation systems are necessarily interactive in the urban setting. However, the

interaction should be carefully coordinated to reduce conflict. This study looks at Webster within the stated criteria and proposes alternatives to the existing condition.

Recommendations

Pedestrian circulation within a CBD is considered primarily functional and secondarily recreational. Most downtown pedestrians began their downtown visit as drivers. Assuming a well-designed parking lot, once out of the vehicle, the pedestrian should see exactly where to go to get to Main Street. Over time, frequent visitors will do this easily out of familiarity. Accessible, safe parking combined with well-marked, convenient pedestrian access to Main Street businesses, will decrease visitor reluctance to come downtown. In this regard, Webster should consider:

- Rear entrance access to some places of business. This is not always a popular concept due to issues of security and business interior layout. However, in selected businesses this can be effective.
- There should be at least one (1) mid-block walkway from rear parking areas to Main Street. It should be wide enough to easily accommodate two-way travel and be perceived as safe (minimum 10-12 ft). Generally, the wider the better to provide space for occasional seating and perhaps planting.
- The walkway should be easily identified with signage and/or architectural features at either end and should be well illuminated.
- Walkways present opportunities to inform the public using downtown directories and other relevant information.
- The French River is a part of the Southwest Subregion Inter-Community Trail Connection program. Webster's contribution to this program is the improvement of riverfront accessibility and provision of land set-aside (easements) for a future trail segment in the CBD. CBD parking north of Main Street should have public access to the riverfront.

Infrastructure

Utilities

Electric, telecommunications and natural gas utilities currently service existing users within the CBD and all have the capacity to expand to serve reuses of existing space as well as new development.

Water

While service is currently adequate for the CBD, the age of the service mains is a concern. The pipe materials (unlined cast iron) and fittings do not meet current standards (cement lined ductile iron) and this ultimately affects water quality and flow rates.

Sanitary Sewer

The sanitary trunk line running along the Access Road is convenient for future development discharges. Fortunately, this alignment does not compromise future development on the lands fronting the French River and is well paced for an extension of the Access Road to Peter Street.

Stormwater Management

Any new development must meet current MEPA regulations governing collection and discharge of stormwater runoff. Discharges will have to include water quality control devices (oil / water and sediment

collection) as a part of the new system. Depending on downstream hydrological impacts, there may be a requirement for stormwater detention for new development to mitigate flood hazards.

Environmental Boundaries and Restrictions

Flood Boundary

Any new development proposed to occur in the floodplain must meet current regulations controlling development within the 100-year flood boundary. This includes a restriction on filling the site and required flood proofing of any inhabited structures.

Rivers Protection Act

There appears to be sufficient flexibility in the applicable sections of this Act to allow for some development along the French River within the CBD. Certainly, all existing disturbances (parking lots, buildings, and retaining walls) are basically “grandfathered”, but any reuse will be required to show an upgrade of the existing condition.

IV. Next Steps

1. Parking

This study identifies two parking lot projects to be constructed as Phase II of this project. These lots will be constructed utilizing a portion of the Webster PWED grant, monies from which have also funded this study. It is anticipated that the parking lot projects will be complete in late 2003 or early 2004.

2. Urban Renewal Plan

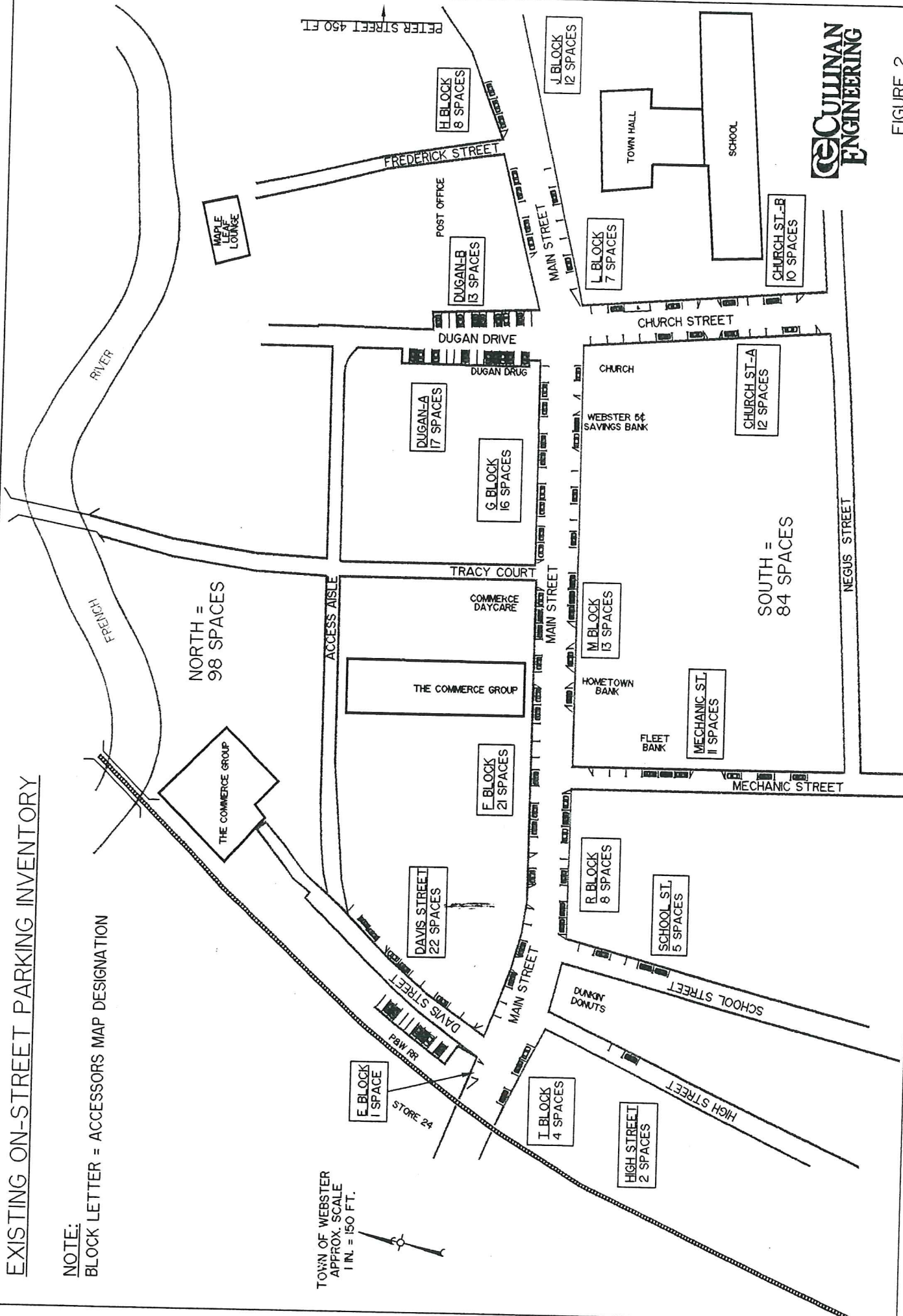
Phase III will complete work started in Phase I on the Urban Renewal Plan and will include the following steps:

- Conduct Market Study
- Coordinate with Dudley
- Expand Development Concepts
- Recommend Infrastructure Improvements including:
 - Vehicular Circulation
 - Pedestrian Circulation
 - Utilities

EXISTING ON-STREET PARKING INVENTORY

NOTE:
BLOCK LETTER = ACCESSORS MAP DESIGNATION

TOWN OF WEBSTER
APPROX. SCALE
1 IN. = 150 FT.



CULLINAN
ENGINEERING

FIGURE 2

LEGEND

STUDY AREA BOUNDARY

EXISTING BUILDINGS

RETAINING WALL

OFF-STREET PARKING

ONE-WAY VEHICULAR
(LOCAL TRAFFIC)

TWO-WAY VEHICULAR
(LOCAL TRAFFIC)

TWO-WAY VEHICULAR
(SECONDARY FLOW)

TWO-WAY VEHICULAR
(PRIMARY FLOW)

EX. SIGNALIZED
INTERSECTION

NEW SIGNALIZED
INTERSECTION

DRIVE ACCESS
(TWO-WAY)

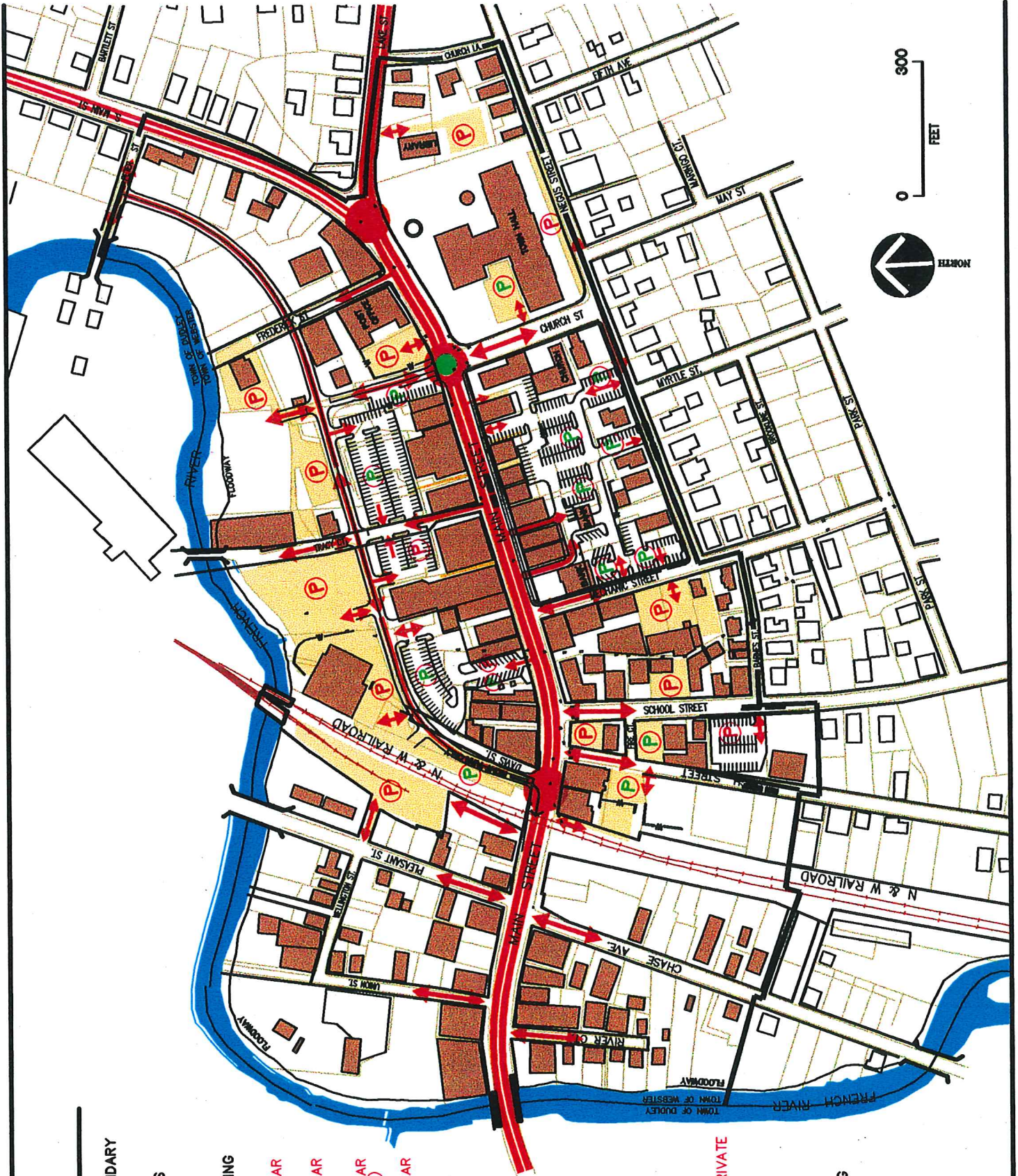
DRIVE ACCESS
(ONE-WAY)

PEDESTRIAN WAY

SHARED PUBLIC/PRIVATE
PARKING

PRIVATE PARKING

PROPOSED PARKING



A1. Project Area Circulation + Parking Concepts

LEGEND

STUDY AREA BOUNDARY



100-YR STORM FLOOD LIMIT



RIVERFRONT AREA BOUNDARY

DAY BROOK STORM CULVERT



SANITARY INTERCEPTOR



EXISTING BUILDINGS



RETAINING WALL



BUILDING DEMOLITION



BUILDING REUSE



FUTURE DEVELOPMENT (SPECIAL USE)



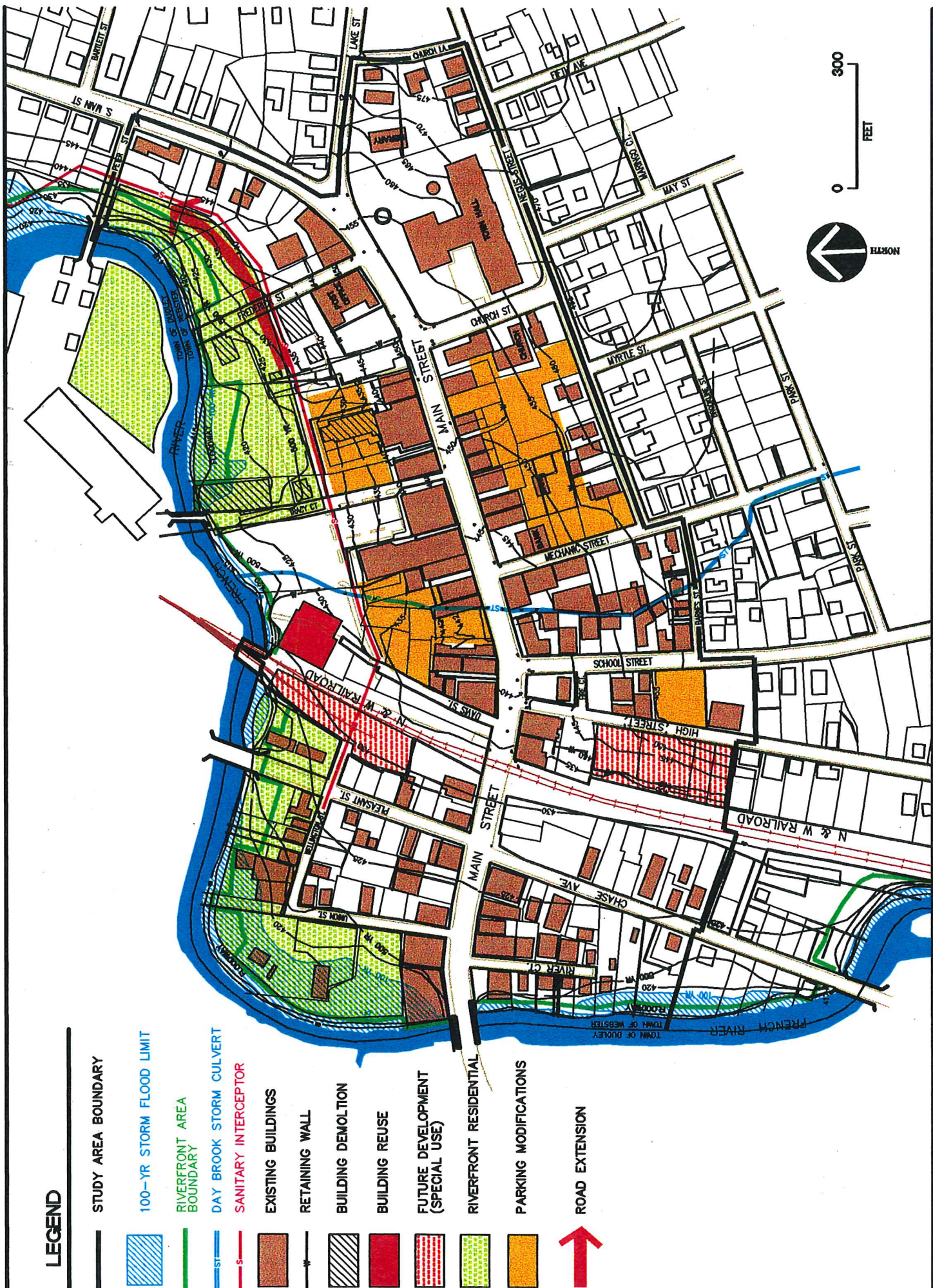
RIVERFRONT RESIDENTIAL

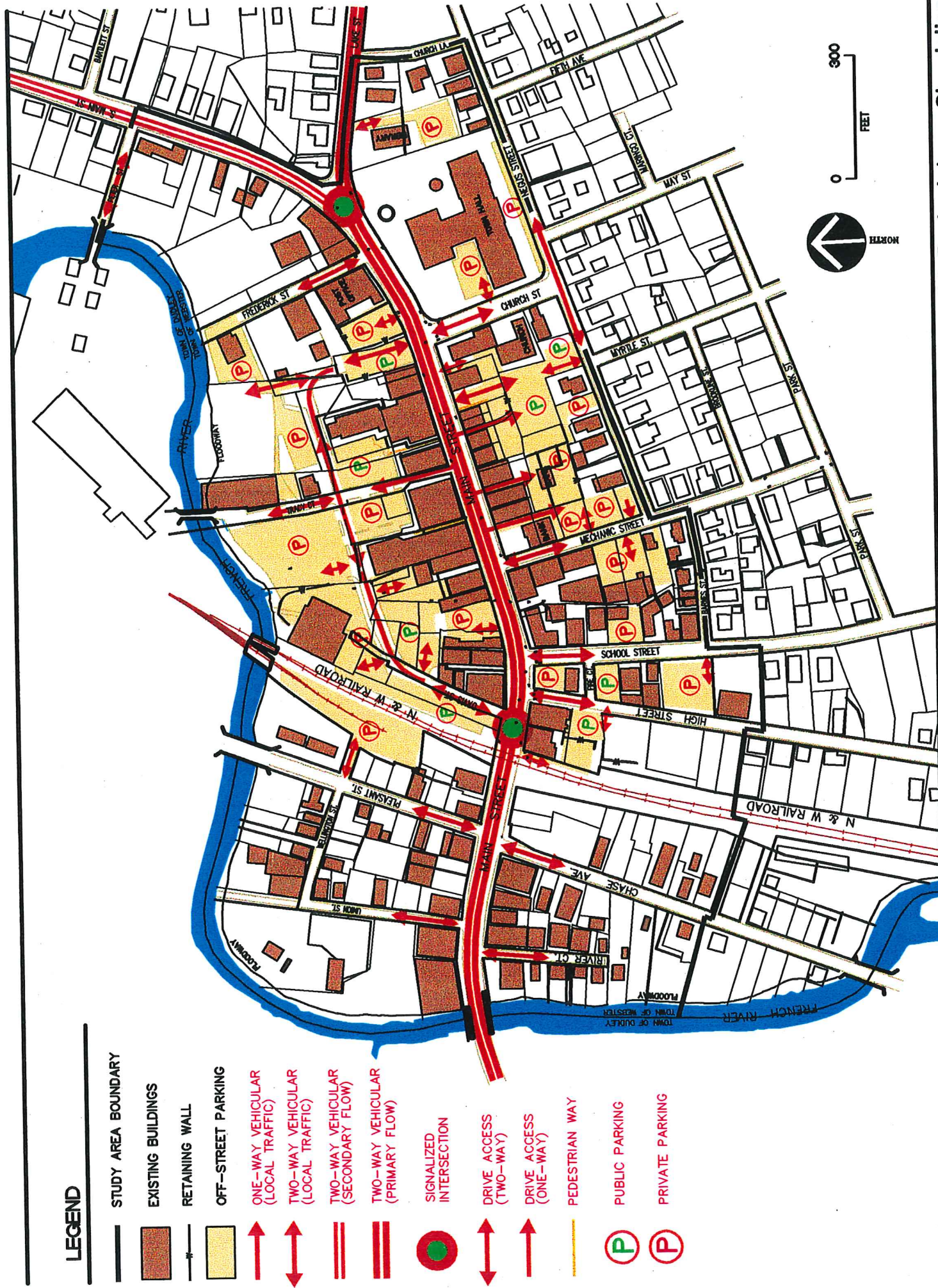


PARKING MODIFICATIONS



ROAD EXTENSION





LEGEND

STUDY AREA BOUNDARY

EXISTING BUILDINGS

RETAINING WALL

OFF-STREET PARKING

ONE-WAY VEHICULAR (LOCAL TRAFFIC)

TWO-WAY VEHICULAR (LOCAL TRAFFIC)

TWO-WAY VEHICULAR (SECONDARY FLOW)

TWO-WAY VEHICULAR (PRIMARY FLOW)

SIGNALIZED INTERSECTION

DRIVE ACCESS (TWO-WAY)

DRIVE ACCESS (ONE-WAY)

PEDESTRIAN WAY

PUBLIC PARKING

PRIVATE PARKING



0 300 FEET

LEGEND

- STUDY AREA BOUNDARY
- EXISTING BUILDINGS
- PUBLIC/PRIVATE OFF-STREET PARKING
(ACCESS DRIVES & PARKING)
- DAY BROOK STORM CULVERT
- SANITARY INTERCEPTOR
- 100-YR STORM FLOOD LIMIT
- EXISTING CONTOUR
(NGVD29)
- RETAINING WALL
- RIVERFRONT AREA
BOUNDARY

